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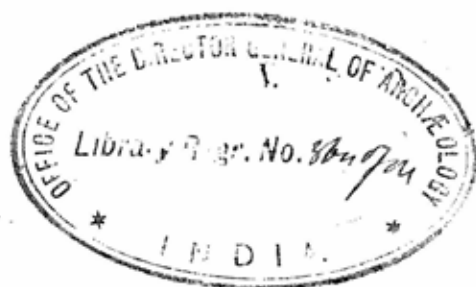
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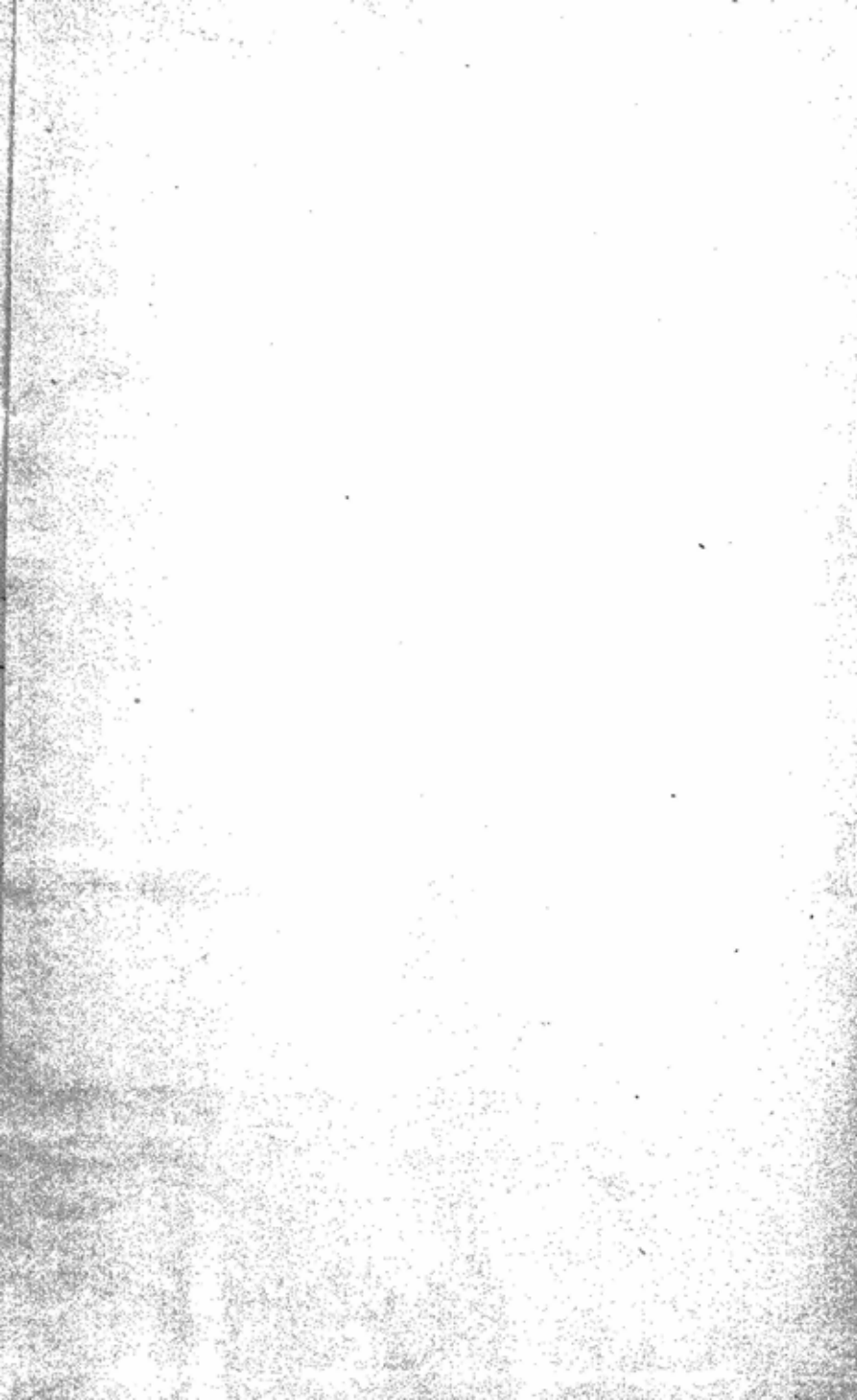
The Trustees

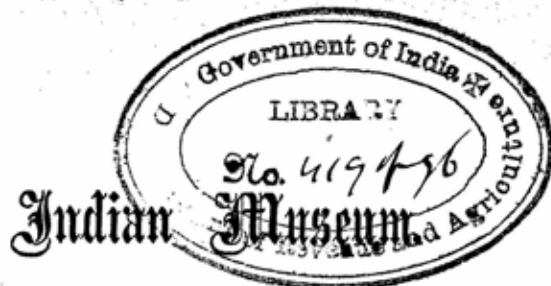
OF

**THE INDIAN MUSEUM.**



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# ANNUAL REPORT.

April 1894 to March 1895.

22321



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MINUTES  
OF  
THE ANNUAL MEETING  
OF  
THE TRUSTEES OF THE INDIAN MUSEUM.

---

MONDAY, 13TH MAY 1895.

---

Present :

SURGEON LT.-COL. D. D. CUNNINGHAM, M.B., F.R.S., C.I.E.,  
*in the Chair.*  
RAI OMRITO NATH MITTER, BAHADUR.  
G. A. GRIERSON, Esq., I.C.S., C.I.E.  
A. F. COX, Esq., I.C.S.  
HON'BLE PRINCE SIR JAHAN KADDER MIRZA MAHOMED WAHED  
ALI, BAHADUR, K.C.I.E.  
DR. A. F. R. HERMLE.  
C. L. GRIEBACH, Esq., C.I.E.  
W. BANKS GWYTHER, Esq.  
COLONEL J. WATERHOUSE, I.S.O.  
C. LITTLE, Esq., *Honorary Secretary.*

## REPORT OF THE TRUSTEES OF THE INDIAN MUSEUM.

IA. The following Officers were elected for the ensuing year :—

COLONEL J. WATERHOUSE, I.S.C., *Chairman.*

SURGEON LT.-COL. D. D. CUNNINGHAM, M.B., F.R.S., C.I.E.,  
*Vice-Chairman.*

RAI OMKAR NATH MITTER, BAHADUR, *Honorary Treasurer.*  
C. LITTLE, Esq., *Honorary Secretary.*

IIA. The Committees for the ensuing year were appointed as follows :—

### *Finance and Visiting Committee.*

A. PEDLER, Esq., F.R.S.

DR. A. F. R. HERNLE.

A. SIMSON, Esq.

DR. MAHENDRA LAL SIRCAR,  
C.I.E.

G. A. GRIERSON, Esq., I.C.S.,  
C.I.E.

BRIGADE-SURGEON LT.-COL. G.  
KING, M.B., F.R.S., LL.D., C.I.E.

A. F. COX, Esq., I.C.S.

### *Economic Committee.*

A. PEDLER, Esq., F.R.S.

DR. MAHENDRA LAL SIRCAR,  
C.I.E.

G. A. GRIERSON, Esq., I.C.S.,  
C.I.E.

BRIGADE-SURGEON LT.-COL. G.  
KING, M.B., F.R.S., LL.D., C.I.E.

DR. A. F. R. HERNLE.

IIIA. The Trustees' Administration Report and the Reports on the Zoological and Archaeological Section by the Superintendent of the Museum, and on the Economic and Art Section by the Officer in charge, for the year 1894-95, were read and approved.

J. WATERHOUSE,

*Chairman.*

# REPORT

OF

## THE TRUSTEES OF THE INDIAN MUSEUM

FOR THE YEAR 1894-95.

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The following report on the administration of the Indian Museum Trust, during the year ending 31st March 1895, is submitted for the information of His Excellency the Right Hon'ble the Governor General in Council.

### MEMBERS.

At the commencement of the year the Board of Trustees consisted of the following Members:—

- |                                                                                     |                                                         |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|
| 1. G. E. MANISTY, Esq., I.C.S., <i>Accountant-General of Bengal.</i>                |                                                         |
| 2. MAHARAJA SIR JOTINDRO MOHUN<br>TAGORE, K.C.S.I.                                  |                                                         |
| 3. J. ELIOT, Esq., F.R.S.                                                           |                                                         |
| 4. COLONEL H. R. THUILLIER, R.E.,<br>C.I.E.                                         | } Nominated by the<br>Governor-General in<br>Council.   |
| 5. E. THURSTON, Esq.                                                                |                                                         |
| 6. BRIGADE-SURGEON LT.-COL. G. KING,<br>M.B., F.R.S., LL.D., C.I.E.                 |                                                         |
| 7. HON'BLE C. E. BUCKLAND, I.C.S.,<br>C.I.E.                                        |                                                         |
| 8. W. C. MACPHERSON, Esq., I.C.S.                                                   |                                                         |
| 9. A. SIMSON, Esq.                                                                  |                                                         |
| 10. HON'BLE PRINCE SIR JAHAN KADRE<br>MIRZA MAHOMED WAHED ALI,<br>BAHADUR, K.C.I.E. | } Nominated by the<br>Lieutenant-Governor<br>of Bengal. |
| 11. RAI OMRITO NATH MITTAR, BAHADUR.                                                |                                                         |

## REPORT OF THE TRUSTEES

- |                                                                                                                                                                                                             |   |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------------------|
| <p>12. SURGEON LT.-COL. D. D. CUNNINGHAM, M.B., F.R.S., C.I.E.</p> <p>13. DR. A. F. R. HOENLE.</p> <p>14. C. LITTLE, Esq.</p> <p>15. DR. MAHENDRA LAL SIRCAR, C.I.E.</p> <p>16. A. PEDLER, Esq., F.R.S.</p> | } | <p>Nominated by the Asiatic Society of Bengal.</p> |
| <p>17. COLONEL J. WATERHOUSE, I.S.C.</p> <p>18. SIR A. CROFT, K.C.I.E.</p> <p>19. W. BANKS GWYTHRE, Esq.</p> <p>20. DR. W. KING.</p> <p>21. G. A. GRIMESON, Esq., I.C.S., C.I.E.</p>                        | } | <p>Elected by the Trustees.</p>                    |

### *Changes in the Board during the year 1894-95.*

On 13th February 1895, Colonel H. R. Thuillier, R.E., C.I.E., the Surveyor General of India, resigned his seat on the Board on his retirement from the service and his successor, Colonel C. Strahan, R.E., was appointed by His Excellency the Governor General in Council to the vacant seat; on 7th September 1894, Mr. R. E. S. Thomas was appointed a Trustee in the room vacated by Mr. E. Thurston, who resumed his substantive appointment as Superintendent of the Central Museum, Madras; on 10th September 1894, Mr. C. L. Griesbach, C.I.E., the Director of the Geological Survey of India, was elected to the seat vacated by Dr. W. King on his retirement from the service.

The result of these changes was that, on the 31st March 1895, the Board was composed as follows:—

1. G. E. MANISTY, Esq., I.C.S., *Accountant-General of Bengal.*

## OF THE INDIAN MUSEUM.

- |                                                                                                                                                                                                                                                                                                         |   |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------------------------------------------|
| <ol style="list-style-type: none"> <li>2. MAHARAJA SIR JOTINDRO MOHUN TAGORE, K.C.S.I.</li> <li>3. J. ELIOT, Esq., F.R.S.</li> <li>4. COLONEL C. STRAHAN, R.E.</li> <li>5. R. E. S. THOMAS, Esq.</li> <li>6. BRIGADE-SURGEON LT.-COL. G. KING, M.B., F.R.S., LL.D., C.I.E.</li> </ol>                   | } | <p>Nominated by the Governor-General in Council.</p>   |
| <ol style="list-style-type: none"> <li>7. HON'BLE C. E. BUCKLAND, I.C.S., C.I.E.</li> <li>8. W. C. MACPHERSON, Esq., I.C.S.</li> <li>9. A. SIMSON, Esq.</li> <li>10. HON'BLE PRINCE SIR JAHAN KADER MIRZA MAHOMED WAHED ALI, BAHADUR, K.C.I.E.</li> <li>11. RAI OMBITO NATH MITTER, BAHADUR.</li> </ol> | } | <p>Nominated by the Lieutenant-Governor of Bengal.</p> |
| <ol style="list-style-type: none"> <li>12. SURGEON LT.-COL. D. D. CUNNINGHAM, M.B., F.R.S., C.I.E.</li> <li>13. DR. A. F. R. HOENLE.</li> <li>14. C. LITTLE, Esq.</li> <li>15. DR. MAHENDRA LAL SIRCAR, C.I.E.</li> <li>16. A. PEDLER, Esq., F.R.S.</li> </ol>                                          | } | <p>Nominated by the Asiatic Society of Bengal.</p>     |
| <ol style="list-style-type: none"> <li>17. COLONEL J. WATERHOUSE, I.S.C.</li> <li>18. SIR A. CROFT, K.C.I.E.</li> <li>19. W. BANKS GWYTHYR, Esq.</li> <li>20. C. L. GREINERBACH, Esq., C.I.E.</li> <li>21. G. A. GREINERSON, Esq., I.C.S., C.I.E.</li> </ol>                                            | } | <p>Elected by the Trustees.</p>                        |

Meetings have been held monthly throughout the year, with the exception of the August meeting day, on which a Durbar was held at Belvedere, and the October meeting day, which fell in the Puja Holidays.

## REPORT OF THE TRUSTEES

The Annual General Meeting was held on 11th June 1894, at which the following Officers of the Trust and Members of the Finance and Visiting and Economic and Art Committees were appointed for 1894-95:—

### HONORARY OFFICERS :

A. PEDLER, Esq., F.R.S., *Chairman.*

SURGEON LT.-COL. D. D. CUNNINGHAM, M.B., F.R.S., C.I.E., *Vice-Chairman.*

DR. A. F. B. HERNLE, *Honorary Treasurer.*

DR. W. KING, *Honorary Secretary.*

### COMMITTEES :

#### *Finance and Visiting Committee.*

C. LITTLE, Esq.

COLONEL J. WATERHOUSE,  
I.S.C.

RAI OMRITO NATH MITTER,  
BAHADUR.

DR. MAHENDRA LAL SIRCAR,  
C.I.E.

G. A. GRIERSON, Esq., I.C.S.,  
C.I.E.

BRIGADE-SURGEON LT.-COL.  
G. KING, M.B., F.R.S.,  
LL.D., C.I.E.

A. SIMSON, Esq.

G. E. MANISTY, Esq., I.C.S.

#### *Economic Committee.*

C. LITTLE, Esq.

COLONEL J. WATERHOUSE,  
I.S.C.

RAI OMRITO NATH MITTER,  
BAHADUR.

DR. MAHENDRA LAL SIRCAR,  
C.I.E.

G. A. GRIERSON, Esq., I.C.S.,  
C.I.E.

BRIGADE-SURGEON LT.-COL.  
G. KING, M.B., F.R.S.,  
LL.D., C.I.E.

The Honorary Officers are also *ex-officio* Members of all Committees.

During the year there were held nine meetings of the Finance and Economic Committees, at which the accounts have been examined and expenditure controlled.

## OF THE INDIAN MUSEUM.

In addition to the above there were also held one special meeting in connection with the Finance Committee, two in connection with the Economic Committee and one in connection with the Visiting Committee.

The ordinary general meetings were held as usual.

### GENERAL ADMINISTRATION.

Surgeon-Captain A. W. Alcock, whose appointment to the post of Superintendent of the Indian Museum was noticed in paragraph 2 of last year's Annual Report, was in charge of the Museum throughout the year.

2. The Economic and Art Section continued to be under the charge of Dr. G. Watt, C.I.E., the Reporter on Economic Products to the Government of India, in accordance with the Proceedings of the Conference held at the Indian Museum and referred to in last year's Annual Report. The arrangement has been found to work well.

3. The offer made by His Honor the Lieutenant-Governor of Bengal to provide a building on Trust land for the mutual accommodation of the offices, studies, laboratories, store-rooms, etc., of the Indian Museum and the Geological Survey of India, was finally accepted by the Trustees in satisfaction of all outstanding claims against the Government of Bengal. The matter was duly reported to the Government of India, and received its approval. It affords the Trustees great pleasure to be able to report that considerable progress was made in the building operations, and that there is every prospect of this handsome addition to the Museum buildings being completed



## REPORT OF THE TRUSTEES

within the year 1895-96. A neat two-storied building to the south of the Kyd Street tank was built by the Government of Bengal to provide godown accommodation for the servants of the Museum and the Geological Survey of India. A satisfactory arrangement was made during the year by which the Superintendent of the Museum was permitted to have control of the tank and the land surrounding it.

4. During the year under review, the local Government decided to abandon the Museum of Zoology in the Medical College and to rely for the practical teaching of Zoology upon the extensive collections in the Indian Museum. The Trustees, therefore, gladly responded to the request of His Honor the Lieutenant-Governor of Bengal and accorded their permission to weekly demonstrations being given in the Indian Museum by the Professor of Zoology to the students of the Medical College during the College Session. The Trustees regard this arrangement as a step in the right direction, for in doing so the Imperial Museum would be keeping in line with the leading Museums in Europe. The Lieutenant-Governor of Bengal has also generously placed at the disposal of the Trustees an annual grant of Rs600 for the maintenance of the dissections and preparations required for these weekly demonstrations of Zoology.

5. At the request of the Government of Bengal, the Trustees permitted their Superintendent, Dr. A. W. Alcock, to examine and to report on several packets of hair in connection with the enquiry into the tree plastering movement in Behar.

6. In May 1894, the Trustees drew the attention of the Government of Bengal to the historical and philological im-

## OF THE INDIAN MUSEUM.

portance of the Asoka inscriptions scattered over India, and to the fact that no permanent memorial existed of them, while the originals are exposed to decay and injury. They also suggested that some arrangements should be made for obtaining fac-simile casts which could be exhibited in the Museum and thus be accessible to scholars for scientific investigation. The scheme was cordially taken up by His Honor the Lieutenant-Governor of Bengal, who in October 1894 deputed Mr. A. E. Caddy to take plaster casts of the inscriptions.

7. The Trustees would also take the present opportunity of conveying their sincere thanks to His Honor the Lieutenant-Governor of Bengal for his timely and powerful advocacy of the much depreciated cause of Archæological research and for his endeavours to continue the Archæological Survey of Bengal, and to place it on a more efficient footing. The Trustees venture to express the hope that His Honor's proposal to appoint a special Archæological officer for Bengal may meet with the success which the importance of the subject demands.

### ZOOLOGICAL AND ARCHÆOLOGICAL SECTION.

8. The Trustees are glad to report again that great progress has been made in re-arranging some of the Exhibition Galleries and also some of the Reserve and Study Collections, and in the issue of publications relating to them. It affords the Trustees no little pleasure to observe that, although the specimens acquired during the year under review were somewhat fewer in number than those received in the previous year, the collections obtained have all been named and include a large number of specimens of special value, either as long wanted desiderata

## REPORT OF THE TRUSTEES

or as being new to the Indian Fauna or types of species. The most important acquisitions are noted in the Superintendent's report.

9. In the Mammal Gallery the most striking addition is a large case of Osteological preparations showing the various stages in the progression from the pentadactylous to the monodactylous type which will be of great value to students ; the Bird Gallery has also been furnished with cases for preparations illustrating the morphology and general bionomy of Birds, while the improved re-arrangement of the Gallery by Mr. Fynn is noticeable and greatly appreciated. The Trustees also observe with much satisfaction that many of the desk cases in this Gallery have been filled with instructive preparations illustrating Mimicry, Protective Resemblance, Insect Metamorphoses, etc., and Economic Entomology. The Reptile and Amphibia Galleries have also been considerably added to and re-arranged, and the admirable arrangement of the Snakes, Lizards, Crocodiles, Turtles and Amphibia, especially the coloured preparations and dissections for teaching specimens, reflect the greatest credit on Dr. Alcock. The Fish Gallery has also been partially re-arranged, and the specimens have been plainly labelled and suitably coloured. Numerous and valuable additions have been made to the Invertebrate Gallery and the specimens have been relabelled. The Archaeological Gallery has received several interesting additions, which are detailed in the Superintendent's report. Among these may be noted a collection of clay seals from the Ludhiana District, presented by the Government of India, and a collection of sculptures, etc., from Kanarak, presented by His

## OF THE INDIAN MUSEUM.

Honor the Lieutenant-Governor of Bengal, also a curious inscribed Chinese slab found in St. John's Church-yard. The Coin Collection has also received some valuable acquisitions, the most interesting among which are a hemidrachma of Archæbius and a unique gold coin said to be the earliest known coin of the Emperor Akbar.

10. Several papers have been published during the year in the Journal of the Asiatic Society of Bengal and in the Annals and Magazine of Natural History descriptive of species of which the type specimens are in the Museum. The third fasciculus of the "Illustrations of the Zoology of the Royal Indian Marine Survey Steamer *Investigator*" has also been prepared during the year.

11. The preparation of Catalogues and Guides has progressed satisfactorily. Descriptive Guides to the Invertebrate Gallery and to the Reptile and Amphibia Galleries by Dr. Alcock have been issued. Part I of Mr. Rodger's Catalogue of Coins in the Indian Museum was also published, and the remaining three parts of the Catalogue were pushed on towards completion, while great progress was made in the preparation of the manuscripts of the Catalogues of Fishes and Crustacea. Considerable material has also been accumulated for the Catalogue of Star fishes, and the manuscript of the Second Supplementary Catalogue of Books in the Library has been brought up to date.

12. Of "Indian Museum Notes," No. 3 of Volume III was published, and Nos. 4, 5 and 6 of the same volume were finally approved of, while the manuscript of No. 1 of Volume IV was submitted for approval.

## REPORT OF THE TRUSTEES

13. Lists of the accessions to the various sections of the Museum are given in detail in the Superintendent's Annual Report, which is appended.

14. The Trustees have again to thank the several volunteers who have helped the Museum in the different branches of Archaeology and Zoology. Among these may be mentioned the names of Dr. Anderson of the Royal Indian Marine Survey Steamer "*Investigator*," Mr. Edgar A. Smith of the British Museum, Messrs. G. F. Hampson, G. B. Buckton, A. Fauvel, A. Forel, L. O. Howard, W. M. Maskell and F. Moore. To Dr. A. F. R. Hœrle, the Trustees desire to express their special thanks for the trouble he has taken in editing the Coin Catalogue and for his continued help in all numismatic matters.

15. The Trustees note with satisfaction that the Museum has benefited by the exchanges effected with (1) the British Museum, (2) Professor de Loriol, (3) Dr. Kœhler, (4) the Cambridge University, (5) Mr. Fulton, (6) the Lucknow Museum and (7) Dr. A. F. R. Hœrle.

16. Surgeon-Captain A. W. Alcock, the Superintendent, was in charge of the Zoological and Archaeological Section during the year, and in addition to these duties he superintended the work of the Entomological, and also that of the Taxidermist Department. Dr. Alcock has effected some admirable rearrangements in the public galleries.

17. Mr. E. C. Cotes, Deputy Superintendent, availed himself of one year's furlough on the 14th April 1894. He made arrangements, while on furlough, for the purchase of field apparatus for the application of insecticides to growing crops.

## OF THE INDIAN MUSEUM.

18. Mr. Frank Finn, the First Assistant to the Superintendent, assumed charge of his office on the 12th October 1894, and at once proceeded with the re-arrangement of the Bird Gallery, a work in which he has made considerable progress. Mr. Finn's work is of a high order and the Bird Gallery will, no doubt, prove of great interest to the general public, while it will also be of great educational value to students of Ornithology and of the Morphology and General Bionomy of Birds.

19. Mr. Fraser, Second Assistant to the Superintendent, made several Osteological preparations, and was in charge of the stores up to the time of his death. Mr. Fraser also supervised the work of the taxidermists and other Museum operatives. He died on the 1st November 1894.

20. Mr. P. C. Mukerji, Temporary Archæological Assistant, was engaged during the two months of the year during which he was connected with the Museum in writing his Orissa Report, and in completing the pencil drawings illustrating it, and also in revising his Behar Report.

21. Mr. Barlow has, under the orders of the Superintendent, carried on the work of the Entomological Department and has done excellent work in Systematic and Economic Entomology. He has, as far as possible, re-arranged the collection of moths, and prepared several trays of Insects for exhibition in the public gallery.

22. Mr. H. B. Perie, the Personal Assistant, officiated as Librarian and Head Clerk of the Superintendent's Office from the 17th April 1894.

## REPORT OF THE TRUSTEES

23. The Trustees have again to record their high appreciation of the excellent work done by the staff of the Zoological and Archaeological Section during the year.

### ECONOMIC AND ART SECTION.

24. This Section was in charge of Dr. George Watt, C.I.E., the Reporter on Economic Products, throughout the year.

25. His report, which is appended, is to a great extent taken up with matters which are more closely connected with his duties as Reporter on Economic Products rather than as Officer in charge of the Economic and Art Section. It contains, however, a great deal of interesting information and many valuable suggestions which the Trustees will be glad to give effect to as far as practicable, especially as regards the occasional deputation of the Assistant Curator noted in paragraph 15 and the provision of funds for purchasing suitable additions to the collections while he is on tour.

26. In consequence of the staff of the office of the Reporter on Economic Products having been considerably strengthened during the year, much of the work that has hitherto overburdened the regular staff of the Museum has now been legitimately made over to that office.

27. The collections have been checked off with the old registers and recorded in the new separate registers designed for each Court of the Economic and Art Section. The work of amalgamation, so far as the Ethnological and Economic Galleries are concerned, has been completed.

## OF THE INDIAN MUSEUM.

28. One of the principal items in the work of the Section was the completion of the experimental bay of the Economic Court, which involved a good deal of labour and arrangement on the part of Dr. Watt. This bay was first inspected and approved by the Trustees, and subsequently by His Honor the Lieutenant-Governor of Bengal, who, on the occasion of his visit, expressed his approval of the "bay system" of arrangement, and who ultimately sanctioned fittings for the entire Court on this plan.

29. During the year 242 specimens were added to the Art Court, 1,403 to the Economic Court, and 91 to the Ethnological Court. Numerous specimens of Commercial and Index Products were despatched to the Imperial Institute, while the Lahore Museum received 276 samples of Products, and the Turin Museum 210.

30. It has already been observed in regard to the Economic Court that one of the experimental bays has been completed and approved. The Trustees, therefore, propose to fit up fifteen similar bays which will utilise all the space along the sides of the gallery, while the middle of it will be reserved for large special cases illustrating samples of Indian Trade and Commerce. The collections in this Court are in urgent need of proper storage accommodation. This defect will, however, be remedied as soon as the tin boxes, bottles, etc., are received, when they will be properly catalogued and finally arranged for exhibition. Samples of products sent to the Imperial Institute of which the Museum does not possess duplicates will be gradually made to fill up the gaps in the Museum collection.



## REPORT OF THE TRUSTEES

31. In the Art Court, the improved system of labelling and registering has advanced considerably. The articles in the Gallery have been inspected, cleaned, checked, and recorded in the new Register. The Mysore Durbar presented this Court with a handsome set of inlaid wood-work; the Jaipur Durbar also made a donation of four specimens of brassware in the style resuscitated by Brigade-Surgeon J. Hendley, c.i.e. The other valuable additions were samples of upwards of 200 specimens of wood-blocks illustrating the dyeing and calico-printing industries, together with samples of cloth printed by some of these blocks.

32. In the Ethnological Gallery progress has been made in the work of re-registering the specimens and re-arranging the Gallery. No less than 4,500 articles have been checked off and re-registered. During the year, interesting and valuable collections of agricultural implements used in Bengal, and of churns employed in India, have been added to the collections; the former having been furnished by the Director of the Department of Land Records and Agriculture, and the latter having been obtained in response to a series of letters issued to the various provinces and administrations throughout India. The extensive collection of extra-Indian Ethnological objects, hitherto stored away in the basement floor, has been removed to, and arranged in, this gallery.

33. Although nothing direct has been done in the way of the printing of Catalogues, yet much of the necessary preliminary work has been pushed forward. In this connection may be mentioned the system of descriptive sheets or Public Registers initiated by Dr. Watt, by means of which informa-

## OF THE INDIAN MUSEUM.

tion regarding each class of exhibits is not only kept up to date, but is also accessible to the general public, and it is hoped that visitors to the Museum will avail themselves of the opportunity of acquiring knowledge thus placed within their reach.

34. Two Monographs—one on the Brass and Copper Manufactures of Bengal and the other on the Pottery and Glass ware of Bengal—dealing mainly with the collections in the Economic Art Section, were published during the year. They were both drawn up by Mr. Mukharji and reflect great credit on him.

35. The Agricultural Ledgers and Handbooks on Commercial Products referred to by Dr. Watt in his Report, although they refer more particularly to the work of the Reporter, will undoubtedly prove useful to the Economic and Art Section of the Museum.

36. Mr. T. N. Mukharji, Assistant Curator, remained in charge of the Section during the absence on tour of the Reporter on Economic Products.

37. The Trustees record their commendation of the useful work done by the staff of the Economic and Art Section and desire to express their thanks to Dr. Watt for the valuable collections procured by him during his tours.

## TRUSTEES' OFFICE.

38. The Trustees regret to record that their Assistant Secretary, Mr. R. L. Chapman, was compelled on the 17th April 1894, on account of the bad state of his health, to take

## REPORT OF THE TRUSTEES OF THE INDIAN MUSEUM.

leave for eighteen months on Medical Certificate. Mr. H. W. Fleming officiated for him and performed the duties satisfactorily.

39. The accounts for the year have been duly audited and passed. An abstract of the receipts and expenditure in both sections is appended.

### THE COLLECTIONS.

40. So far as is known the collections are in good order and preservation.

C. LITTLE,

*Honorary Secretary.*

J. WATERHOUSE,

*Chairman.*



# REPORT OF THE TRUSTEES

## *Abstract of Receipts and Expenditure of the Zoological and 1894 to 31st*

RECEIPTS.			
	R	a.	p.
India Government grant for pay of non-gazetted establishment and personal allowance for Second Assistant to Superintendent	13,610	6	11
India Government grant for non-gazetted officiating appointments	1,843	14	11
India Government grant for allowance to menials on account of dearness of food grains sanctioned in 1893-94	20	7	6
India Government grant for contingent charges for the year 1894-95	13,134	8	0
Savings on gazetted establishment, 1893-94	372	8	5
Savings on non-gazetted establishment 1893-94	2,321	12	5
India Government special grant for wood blocks for the illustration of the serial "Indian Museum Notes"	...	1,132	4 5
India Government special grant to Mr. E. C. Cotes for the preparation of 3 Lesson Sheets	...	300	0 0
Bengal Government special grant for Archaeology	...	600	0 0
Sundry petty receipts	...	225	11 10
TOTAL RECEIPTS	...	33,562	10 5
Opening balance of Suspense Accounts, 1st April 1894	599	4	1
Opening balance at Bank of Bengal, 1st April 1894:—			
Bengal Government Archaeological grant	757	3	11
Zoological and Archaeological Section General Funds	4,139	6	6
Opening balance in hand, 1st April 1894	69	13	9
	...	39,148	6 8

H. W. FLEMING,

*Registrar.*

# OF THE INDIAN MUSEUM.

*Archaeological Section of the Indian Museum from 1st April  
March 1895.*

EXPENDITURE.			
	R	a.	p.
Pay of non-gazetted establishment . . . . .	12,810	6	11
Personal allowance to Second Assistant to Superintendent . . . . .	800	0	0
Cost of non-gazetted officiating appointments . . . . .	1,843	14	11
Allowance to menials for dearness of food grains sanctioned in 1893-94 . . . . .	20	7	6
Temporary establishment . . . . .	...		
Books for Library . . . . .	...		
Printing . . . . .	...		
Purchase of specimens . . . . .	...		
Postage . . . . .	...		
Unusual charges:—			
(a) Bengal Archaeology . . . . .	1,024	6	3
(b) Fish Catalogue . . . . .	140	0	0
(c) Honorarium to Mr. E. C. Cotes for preparation of 3 Lesson Sheets . . . . .	300	0	0
(d) Asteroides Catalogue . . . . .	60	0	0
Packing and freight . . . . .	...		
Furniture (cases, jars, etc.) . . . . .	...		
Drugs (alcohol, naphthaline) . . . . .	...		
Stationery . . . . .	...		
Special Museum stores . . . . .	...		
General Museum stores and contingencies . . . . .	...		
TOTAL EXPENDITURE . . . . .	...		
Closing balance of Suspense Accounts 31st March 1895 (to be recovered or accounted for in 1895-96) . . . . .	...		
Closing balance in Bank, 31st March 1895:—			
Bengal Government Archaeological grant . . . . .	332	13	8
Zoological and Archaeological Section General Funds . . . . .	2,379	10	6
Closing balance in hand . . . . .	...		

OMRITO NATH MITTER,  
Honorary Treasurer.

# REPORT OF THE TRUSTEES

## Abstract of Receipts and Expenditure of the Economic 1894 to 31st

RECEIPTS.			
	R	a.	p.
Bengal Government grant for non-gazetted establishment	5,443	14	6
Bengal Government grant for allowance to menials on account of dearness of food grains sanctioned in 1893-94	26	7	3
Bengal Government grant for contingencies	2,784	0	0
Petty receipts	4	15	10
			5,470 5 9
			2,788 15 10
TOTAL RECEIPTS ON MUSEUM ACCOUNT	...		8,259 5 7
Sale of Archaeological Drawings (Technical Art Series) on behalf of India Government	...		42 8 0
TOTAL RECEIPTS ON ALL ACCOUNTS	...		8,301 13 7
Opening Suspense Account balance, 1st April 1894	...		1 10 0
Opening balance in Bank, 1st April 1894 :—			
Austrian Government grant for Ethnological specimens	768	2	6
Photo. Litho. office (sale proceeds of Archaeological Drawings—Technical Art Series)	19	4	0
Economic and Art Section General Funds	4,086	0	4
Cash in hand, 1st April 1894	...		4,868 6 10
			113 9 9
			18,285 8 2

Dr.

Ahsannulla-Swarnamaree

	R	a.	p.
To Balance	7,860	10	9
Interest on Fixed Deposit of Rs. 1,078-12-1	21	9	2
Government Promissory Note of Rs. 5,000	206	6	3
Interest on Fixed Deposit of Rs. 1,087-10-0	27	3	0
			7,615 13 7

H. W. FLEMING,

Registrar.

and Art Section of the Indian Museum from 1st April  
March 1895.

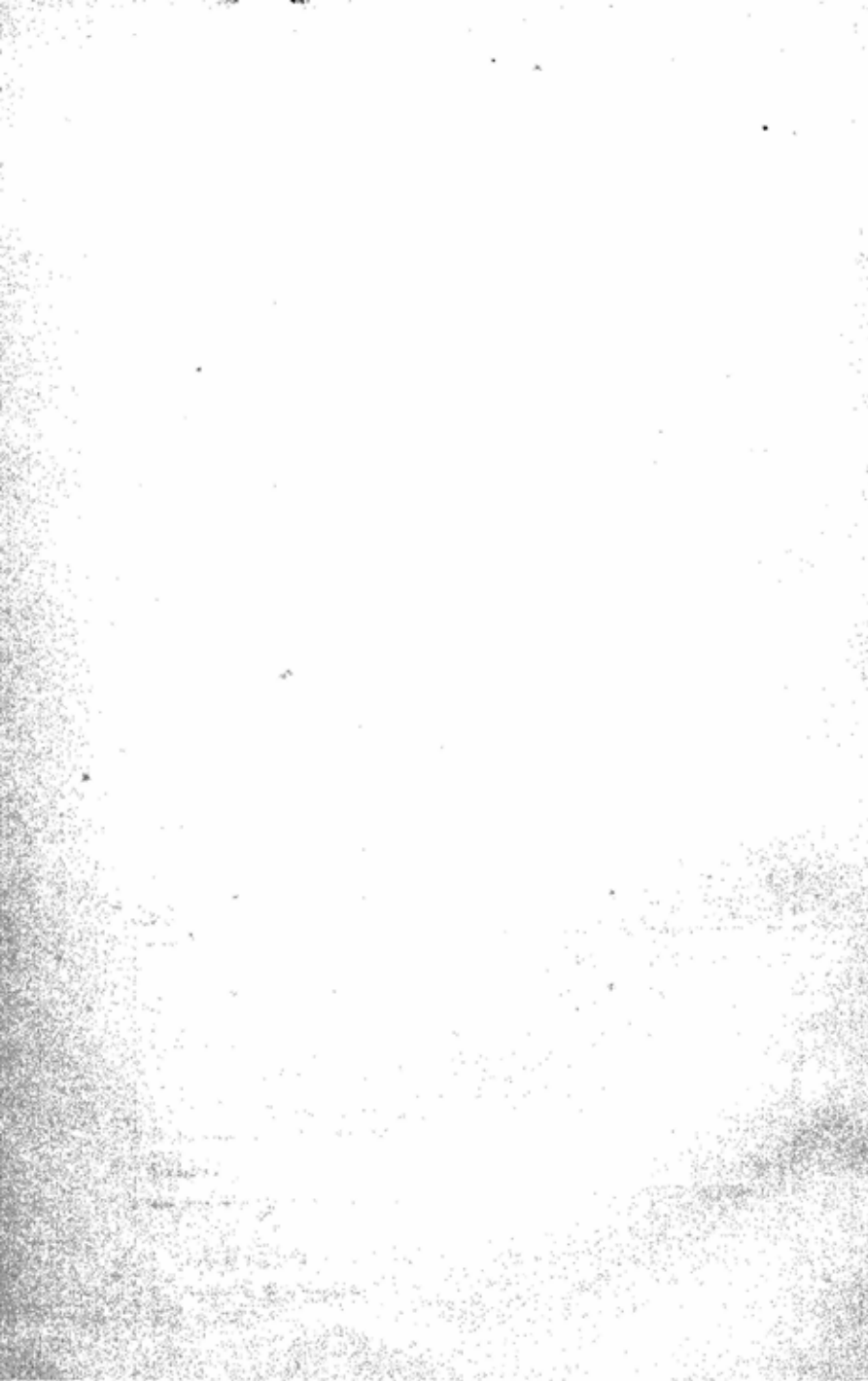
\* Exclusive of a balance of R.05-14- on account of the Ahsunulla-Swarnamsaye Memorial Fund (see below).

Cт.

OMRITO NATH MITTER.

*Honorary Treasurer.*





# REPORT OF THE SUPERINTENDENT

FOR THE YEAR 1894-95.

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## SUPERINTENDENT.

I have the honour to submit my Report on the progress of the Museum for the year ending 31st March 1895.

In the Zoological Section the principal aim has been not so much to add indiscriminately to the mass of collected material—though judicious collection has been by no means discouraged—but to systematically and finally work out and arrange, for purposes of study, research and use, and in order to facilitate and improve our means of collection in the future, the great mass of material (especially Invertebrata) accumulated in past years. The chief progress therefore in this section is to be found in the Exhibition Galleries, in certain of the Reserve and Study collections, and in publications relating to all these.

In the Archæological Section the chief effort has been—so far as the Superintendent's direct responsibilities are concerned—to preserve the already well-arranged collections intact.

## I. THE ADDITIONS TO THE COLLECTIONS.

The actual acquisitions number 4,551 specimens, or 504 less than last year. But it has to be added that almost all the specimens acquired this year are named, and that they include

## REPORT OF THE SUPERINTENDENT,

a large number of specimens which are of special value as being long wanted desiderata, or as being new to the Indian Fauna, or as being types of species.

Of the acquisitions the most important are the following :—

### A. GENERAL ZOOLOGY.

- (i) The usual extensive well-preserved and valuable collections of Marine Zoology from the Royal Indian Marine Survey Steamer *Investigator* ;
- (ii) A fine collection of well-preserved snakes presented by Surgeon-Captain C. R. M. Green and Mr. F. A. Shillingford ;
- (iii) A small collection of species of Indian Amphibia hitherto wanting to the Trustees' collection—acquired by exchange with the British Museum ;
- (iv) A large number of Mammals, Birds, Reptiles and Amphibia presented by Mr. W. Rutledge ;
- (v) A number of large Mammals, of Birds, and of Reptiles, from the Calcutta Zoological Gardens ;
- (vi) A collection of more than twenty species of named European Echinoderms acquired by exchange with Dr. Koehler and Prof. de Loriol ; and of ten species (named) obtained by exchange from the University Museum of Cambridge ;
- (vii) A large collection of named Mollusca obtained by exchange with Mr. H. Fulton ; and
- (viii) Mr. C. B. Rickett's munificent donation of Birds' skins from Foochow, which was noticed in last year's report, must again, now that it has been

## INDIAN MUSEUM.

incorporated with the Trustees' collection, be noticed. The collection contains more than a thousand skins, mostly of Palearctic species, all in very fine condition.

### B. ARCHEOLOGY.

- (i) A collection of 103 clay seals from the Ludhiana District presented by the Government of India ;
- (ii) A collection of slabs, fragments of cornices, pilasters, etc., from Kanarak presented by H. H. the Lieutenant-Governor of Bengal ;
- (iii) A number of unique or rare coins partly purchased and partly presented by Government ;
- (iv) A large number of extremely rare coins purchased from Mr. Rodgers ; and
- (v) A Chinese inscribed agglomerate-lava slab found in St. John's Church-yard, presented by Rev. H. B. Hyde and church-wardens.

Of the zoological acquisitions the following are specially worthy as really valuable additions to the Trustees' collection :—

### MAMMALS.

A specimen of the Fishing Civet (*Cynogale*), presented by the Calcutta Zoological Gardens : this has been so well manipulated by Mr. Swaries as to furnish both a perfect skeleton and a well and very naturally mounted stuffed skin. Also, presented by the Calcutta Zoological Garden, a specimen of a Brazilian Tapir.

## REPORT OF THE SUPERINTENDENT,

### BIRDS.

A fine male specimen, in perfect plumage, of the Argus Pheasant, presented by Babu Raja Rajendra Mullik : a very fine male specimen of the Great Bird of Paradise, presented by the Calcutta Zoological Garden.

### REPTILES.

Specimens of the Great Anacondo and of the Boa Constrictor, presented by the Calcutta Zoological Garden : of the rare fresh-water snake *Xenochrophis cerasogaster*, presented by Mr. F. A. Shillingford ; of the rare skink *Mabuia bibronii*, presented by Surgeon-Captain A. R. S. Anderson ; and a specimen of a new species of Flying Lizard, presented by Dr. F. H. Norvil of Assam.

### AMPHIBIA.

Three specimens of the Giant Salamander of Japan presented by Mr. W. Rutledge.

### FISHES.

Specimens of :—

*Priacanthus holocentrum.*

*Dactylopterus macracanthus.*

" *chirophthalmus.*

*Minous trachycephalus.*

*Ceratias bispinosus.*

*Ophiocephalus stewarti.*

*Bathygadus multifilis.*

*Bathyonus gelatinosus.*

*Laops guentheri.*

*Samaris cristatus.*

*Bathypterois guentheri.*

## INDIAN MUSEUM.

*Exocoetus speculiger.*  
*Halosaurus parvipennis.*  
*Congromuræna guttulata.*  
*Uroconger vicinus,*

and the five following types of new species :—

*Scorpena bucephalus.*  
" *crostris.*  
*Pterois macrura.*  
*Pæcilopsetta maculosa,* and  
" *prælonga.*

## MOLLUSCA.

Chiefly from the deep-sea—

*Solariella infundibulum,* *Conus australis,* *Conus planiliratus,* *Conus turriculatus,* *Pleurotoma symbiotes,* *Pyrula dutsumieri,* *Amussium jeffreysii,* *Amussium caducum*; and the following, chiefly deep-sea types :—

*Conus coromandelicus.*  
*Pleurotoma congener.*  
" *subcorpulenta.*  
*Murex malabaricus.*  
*Nassaria coromandelica.*  
*Latirus andamanicus.*  
*Lacuna indica.*  
*Sigaretus tener.*  
*Capulus lissus.*  
*Turbo indicus.*  
*Scaphander andamanicus.*  
*Lepidopleurus similis.*  
*Dentalium profundorum.*  
" *usitatum.*

## REPORT OF THE SUPERINTENDENT,

*Dentalium insolitum.*

*Cytherea pudicissima.*

*Abra maxima.*

*Cuspidaria caduca.*

„ *alcocki.*

*Lucina bengalensis.*

*Limopsis indica.*

*Amussium alcocki.*

„ *andamanicum.*

„ *solitarium.*

### ECHINODERMA.

*Phormosoma bursarium*, *Phormosoma luculentum*, *Echinoneus cyclostomus*, *Schizaster gibberulus*; and the two following deep-sea types:—

*Dorocidaris tiara.*

„ *alcocki.*

### CRUSTACEA.

*Gnathophausia zoëa*, *Thysanopoda obtusifrons*, *Petalophthalmus armiger*, *Benthesicymus carminatus*, *Prionocrangon ommatoseres*, *Nematocarcinus productus*, *Phoberus cæcus*, *Nephropsis stewarti*, *Calocaris macandrea*, *Arctus orientalis*, *Panulirus angulatus*, *Munidopsis trifida*, *Galacantha areolata*, *Uroptychus nitidus*, *Hyastenus gracilirostris*, *Hyastenus tenuicornis*, *Cryptopodia spatulifrons*, *Lophozozymus nitidus*, *Chlorodius lævissimus*, *Chlorodopsis areolatus*, *Cymoquadrilobatus*, *Pilumnus cursor*, *Eriphia scabricula*, *Carupa tenuipes*, *Lupocyclus orientalis*, *Lupocyclus rotundatus*, *Grapsus crinipes*, *Plagusia clavimana*, *Sesarma obesa*, *Typhlocarcinus nudus*, *Typhlocarcinus villosus*, *Cryptosoma granulosum*,

# INDIAN MUSEUM.

*Leucosia haematosticta*, *Leucosia obtusifrons*, *Arcania laevimana*, *Arcania novemspinosa*, *Phlyxia erosa*, *Myra darnleyensis*, *Myra elegans*, *Nursilia dentata*, *Iphiculus spongiosus*, *Cryptodromia conchifera*, *Bathynomus giganteus*: also the following types of new species:—

*Haliporus villosus*.

*Sergestes hamifer*.

*Glyphocrangon cerea*.

*Alpheus macroceles*.

*Heterocarpus tricarinatus*.

*Plesionika bifurca*.

*Palæmonella laccadivensis*.

*Psathyrocaris platyophthalmus*.

„ *plumosa*.

„ *infirmus*.

*Callianassa cæcigena*.

*Arctus rubens*.

*Munidopsis poseidonia*.

„ *regia*.

„ *trachypus*.

„ *unguifera*.

*Galacantha investigatoris*.

*Dromidia kendalli*.

*Randallia coronata*.

*Arcania quinquespinoza*.

*Leucosilia granulosa*.

*Calappa exanthematosa*.

*Mursia bicristimana*.

*Xanthodes microps*.

*Goniosoma hoplites*.

*Pugettia (Scyramathia) beauchampi*.



## REPORT OF THE SUPERINTENDENT,

*Achæus hyalinus.*

*Inachoides dolichorhynchus.*

*Dorippe polita.*

*Cymopolia serripes,*

and finally the two following new generic types :—*Engystenopus* belonging to the Macrurous Family Stenopidæ; and *Archæoplax* (which has now been renamed *Ptenoplax*, as the name *Archæoplax* is found to be pre-occupied) belonging to the Brachyurous Family Gonoplacidæ.

### CÆLENERATA.

Specimens of *Conopora tenuis*, *Caryophyllia communis*, *Flabellum japonicum*, *Rhizotrochus crateriformis*, *Bathyaëtia symmetrica*, and the following types of new species :—

*Caryophyllia scillæomorpha.*

*Flabellum pari-pavoninum.*

*Stephanotrochus oldhami.*

### ARCHÆOLOGY.

Of the archæological acquisitions the most important are the following :—

A hemidrachma of Archebius.

An unique gold coin of Akbar, said to be the earliest known coin of that ruler.

A collection of clay seals.

## II. NEW PUBLICATIONS.

### A. ZOOLOGY AND ECONOMIC ENTOMOLOGY.

The following official publications have been issued this year :—

- (i) Descriptive Guide to the Invertebrate Gallery.

## INDIAN MUSEUM.

(ii) Descriptive Guide to the Reptile and Amphibia Galleries.

(iii) Indian Museum Notes, Vol. III, No. 3; (issued). Vol. III, No. 4, dealing with Tea-pests; No. 5 and No. 6 (submitted for final approval), and Vol. IV, No. 1 (submitted in MS. for approval).

The following works are in course of preparation :—

(i) Catalogue of the Fishes in the Indian Museum, more than half of the MS. of the first volume of which is with the printer.

(ii) Catalogue of the Crustacea in the Indian Museum—the MS. of the Oxyrhynch Crabs is very near completion.

(iii) Catalogue of Star-fishes in the Indian Museum. This has not got beyond the preparatory stage of extraction of references.

## B. ARCHÆOLOGY AND LIBRARY.

(i) Coin Catalogue. Part I, Coins of the Sultans of Delhi, [has been issued.

(ii) Coin Catalogue. Part II, Coins of the Mogul Emperors of India; the East India Company; the Native States; the Indian Empire; Medals and Tokens; and Part III, Ancient Coins of India; Mediæval Coins of India; Miscellaneous North-Indian Coins; and Miscellaneous South-Indian Coins, are only awaiting the completion of the plates; and Part IV, which will complete the Catalogue, is in print, all but the Appendices.

(iii) The MS. of the Second Supplementary Catalogue of Books in the Library is up to date.

## REPORT OF THE SUPERINTENDENT,

The following non-official publications in which most of the types above mentioned are described have appeared during the year :—

- (i) On the Results of the Deep-sea Dredging during the Season 1890-91 (Report on the Crustacea continued), by A. Alcock. Ann. Mag. Nat. Hist., (6) XIII, pages 321-334.
- (ii) On the Results of the Deep-sea Dredging during the Season 1890-91 (Report on the Crustacea concluded), by A. Alcock. Ann. Mag. Nat. Hist., (6) XIII, pages 400-411.
- (iii) Report upon some Mollusca dredged in the Bay of Bengal and the Arabian Sea, by Edgar A. Smith. Ann. Mag. Nat. Hist., (6) XIV, pages 157-174, Plates III-V, and Appendix, pages 366-368.
- (iv) An Account of a Recent Collection of Bathybial Fishes from the Bay of Bengal and from the Laccadive Sea, by A. Alcock. Journ., Asiat. Soc. Beng., Vol. LXIII, Part II, pages 115-137, Plates VI and VII.
- (v) Note on the sound produced by the Ocypode Crab, *Ocypoda ceratophthalma*, by A. R. S. Anderson. Journ., Asiat. Soc. Beng., Vol. LXIII, Part II, pages 138 and 139.
- (vi) A new Brachiopod, by A. Alcock. Journ., Asiat. Soc. Beng., Vol. LXII, Part III, pages 139 and 140, Plate VIII.
- (vii) An Account of a Recent Collection of Deep-sea Crustacea from the Bay of Bengal and Laccadive Sea, by A. Alcock and A. R. S. Anderson. Journ.,

## INDIAN MUSEUM.

Asiat. Soc. Beng., Vol. LXIII, Part II, pages 141-185, Plate IX.

- (viii) On some New and Rare Corals from the Deep Waters of India, by A. Alcock. Journ., Asiat. Soc. Beng., Vol. LXIII, Part II, pages 186-188.
- (ix) On the Echinoidea collected during the Season 1893-94, by A. R. S. Anderson. Journ., Asiat. Soc. Beng., Vol. LXIII, Part II, pages 188-195.
- (x) List of the Shore and Shallow-water Brachyura collected during the Season 1893-94, by A. Alcock and A. R. S. Anderson. Journ., Asiat. Soc. Beng., Vol. LXIII, Part II, pages 197-209.
- (xi) On a new species of Flying Lizard from Assam, by A. Alcock. Journ., Asiat. Soc. Beng., Vol. LXIV, Part II, pages 14 and 15, Plate III.

The third issue of Illustrations of the Zoology of the Royal Indian Marine Steamer *Investigator*, consisting of twelve quarto plates of drawings, has also been prepared in the Museum during the year.

## III. THE ADDITIONS TO THE EXHIBITION GALLERIES.

1. In the *Mammal Gallery* the most important addition is a large case illustrating the various stages in the progression from the pentadactylous to the monodactylous type—the large bones in all the preparations being named and the homologous digits coloured alike throughout.

The other additions are a case of stuffed specimens of the Orang-outang—young male, female and young, and some specimens of small mammals—Apes, Cats, and Deer.

## REPORT OF THE SUPERINTENDENT,

2. The *Bird Gallery* has been entirely re-arranged in accordance with modern ideas; and, besides this, all the cases of Crocodile skeletons have been removed, and have been replaced by cabinet cases for preparations illustrating the morphology and general bionomy of Birds.

The desk cases for insects, which were placed in this gallery last year, have been in large part filled with an extensive series of instructive preparations illustrating Mimicry, Protective Resemblance, Secondary Sexual Characters, Dimorphism and Variation, Insect metamorphoses, etc.; while a large number of cases illustrative of Economic Entomology have been mounted for exhibition.

### 3. *Reptile and Amphibia Gallery.*—

- (i) Seven large cabinet cases illustrating the Snake Fauna of India have been filled—the specimens consisting of snakes in spirit; skeletons; and dissections showing the poison apparatus of the various venomous snakes, the various types of snake dentition, and the circulatory organs of the snake.
- (ii) Five similar cabinet cases of Lizards have also been arranged—the specimens illustrating the Fauna of India, the typical Lizard skeleton and its more important modifications, some modifications of the lizard tongue, and some of the more important points in the internal organization of the lizard.
- (iii) The bones of large mounted skeletons of a Gavial and a Turtle, and the bones of the skulls of some Crocodiles and Turtles have been labelled, and where necessary distinctively coloured, as teaching preparations.

## INDIAN MUSEUM.

- (iv) A representative collection of Amphibia has been mounted; the specimens including dissections of the Bullfrog, coloured dissections of the Circulatory and Respiratory Organs of the large Tadpole in various stages of development, labelled skeletons of Frog, Toad, and Giant Salamander, and a series of coloured preparations contrasting the skull of the Frog with that of the other Vertebrate types.

In short the Reptile and Amphibia Gallery, as a whole, has been largely remodelled.

4. *Fish Gallery*.—The re-arrangement of this Gallery has been taken in hand, and is now to the extent of one-third complete. The exhibits to this extent have not only been grouped in natural families according to modern ideas, but every specimen has been plainly labelled, and almost every specimen has been coloured according to life.

5. *Invertebrate Gallery*.—To this Gallery numerous specimens have been added, including some beautiful larval forms of Crustacea, duplicates of the new species of Crustacea and Mollusca acquired during the year, and some Hydro-medusæ and Corals mounted in spirit. All the old cardboard "family" labels have been replaced by Japan-polished wooden labels; and a large number of the hand-printed descriptive labels have been replaced by printed cardboard labels.

The large collection of Land Mollusca has been re-arranged in accordance with Nevill's Catalogue.

6. *Archæological Gallery*.—A Chinese inscribed slab of some interest has been added to this Gallery; and a series of chiefly metal images of late Buddhistic date, as well as

## REPORT OF THE SUPERINTENDENT,

some large gilded images of the Burmese Buddha, have been appropriately placed.

7. *Library*.—The additions to the Library are mentioned in Appendix C.

## IV. DISTRIBUTION OF WORK.

### SUPERINTENDENT.

The Superintendent, besides re-arranging and writing a Descriptive Guide to the Reptile and Amphibia Gallery, and contributing the already cited papers having special reference to the additions to the collections, has been occupied with the preparation of a Catalogue of the Fishes and a Catalogue of the Crustacea in the Trustees' collections.

In the course of the last-mentioned work one-third of the entire collection of Fishes has been critically examined, where necessary named, and relabelled; one-third of the exhibited collection of Fishes has been re-arranged in the manner already described; and the whole of the Maioid Crabs have been critically examined, and where necessary named, and systematically arranged and compactly stored for final disposal in the buildings now in course of erection.

The Superintendent also for practically the whole year has directly supervised the work of the Entomological Department, and for about half the year that of the Taxidermists' Department.

### DEPUTY SUPERINTENDENT.

Mr. E. C. Cotes was absent on furlough for all but the first 13 days of the year.

## INDIAN MUSEUM.

### FIRST ASSISTANT TO THE SUPERINTENDENT.

Mr. F. Finn reported his arrival on the 10th October and at once proceeded to take stock of the collection of Birds, and to re-arrange the Bird Gallery, identifying a large number of unnamed specimens.

His work in this direction has not only been of the highest intrinsic value, but has been specially timely by reason of the fact that the collection was one of those that most required the hand of an expert.

The Bird Gallery, though still incomplete, is now fairly on its way to be a place of real educational value not only to the student of Ornithology, but also to the student of Morphology and General Bionomy. The additions to the gallery have been numerous, and they have the great merit of being artistically mounted according to nature under Mr. Finn's own eye, and of being legibly labelled.

### SECOND ASSISTANT TO THE SUPERINTENDENT.

Mr. O. L. Fraser, whose death occurred on the 1st November, had, with the Superintendent's approval, been absent from office on account of illness for about a month before that date: previous to his illness he kept and issued stores, and made several osteological preparations—chiefly forelimbs of mammals to be used in a series of teaching preparations. Since Mr. Fraser's death the Osteological and Taxidermists' Department has been under the direct supervision of the Superintendent.

### ENTOMOLOGICAL ASSISTANT.

Since the 14th April, Mr. E. Barlow has carried on the work of the Entomological Department under the direct supervision of the Superintendent and has done a large amount of



## REPORT OF THE SUPERINTENDENT,

most excellent work in both branches of Entomology—Systematic and Economic.

In Systematic Entomology he has as far as possible re-arranged the collection of moths in accordance with Hampson's recently issued Second Volume on the Moths of India; and has prepared for the Exhibition Gallery 22 trays illustrating beautifully and comprehensively (1) protective mimicry in butterflies; (2) general protective resemblance in insects; (3) variation and dimorphism in butterflies; (4) secondary sexual characters in insects; and (5) the morphology of insects.

In Economic Entomology he has bred and identified numerous insect pests from numerous correspondents, and also a very large number of bees for the Reporter on Economic Products; has prepared a volume (Vol. IV, No. 1) of Indian Museum Notes; and has prepared 31 trays illustrating the history of the more important insect pests of India.

Mr. Barlow has been most eminently industrious, and his work has been characterized throughout by intelligence, accuracy, neatness, and completeness.

### LIBRARIAN AND HEAD CLERK.

This post has been held by Mr. H. B. Perie since the 17th April. Mr. Perie has brought the manuscript of the Second Supplementary Catalogue of the Library up to date, has kept the whole department in his charge in thorough working order; and has fully maintained the high character for accuracy and efficiency that has already been expressed both by the late Superintendent and myself.

### OTHER MUSEUM ASSISTANTS.

Mr. W. H. Smith, permanent clerk, and Messrs. J. B. Richardson and C. O. Bateman, who have been under

## INDIAN MUSEUM.

a temporary engagement, have all done a large amount of good work.

Mr. Richardson's work in arranging and labelling the large collection of Land Mollusca exhibited in the Invertebrate Gallery, and Mr. Bateman's work in extracting and indexing the references to the literature for Fish Catalogue, were performed with a neatness, accuracy and despatch that surprised me.

Mr. C. Swaries was promoted to be Head Taxidermist and Store-keeper after the death of Mr. Fraser, and has discharged both offices to my entire satisfaction.

He and the industrious assistants Martin and Pereira, whom he has trained, and whose work he supervises, have turned out a large number of first class preparations for exhibition, among the more important of which are—(1) skeletons of Bengal Tiger and Gangetic Porpoise specially mounted to contrast the skeletal organization of a typical land mammal with a typical aquatic mammal (not yet placed in the gallery); (2) group of stuffed Orang-outangs—young male, female, and suckling; (3) male and female of the Argus pheasant, the male in the attitude of courtship (not yet placed in the gallery); (4) stuffed specimens, with wing-bones separately appended, of Lammergeier and Cassowary, to contrast the wonderful differences of the primary organs of flight in a typical Carinate and Ratite (not yet placed in gallery); (5) stuffed specimens of the Great Bird of Paradise; (6) stuffed specimens of the great Anacondo and of the Boa Constrictor according to nature; (7) an excellent series of stuffed Sharks; and (8) a series of mammal skulls designed to show the various types of mammalian dentition (not yet placed in the gallery).

## REPORT OF THE SUPERINTENDENT,

Munshi Kassimuddin deserves special mention for careful attention to several details in the Archaeological Gallery, but chiefly for the excellence of his labelling throughout the Museum.

The Artist, Abhoya Charn Chowdhary, has maintained his good reputation for industry and skill. Besides making a large number of excellent drawings to illustrate the above-mentioned publications, he has made a number of drawings to illustrate the exhibited collections, and has very beautifully coloured, according to life, 175 specimens of stuffed fishes for the Fish Gallery.

The Entomological Artist, Grish Chunder Chuckerbutty, has also done some very fair work under the supervision of Mr. Barlow.

### V. MISCELLANEOUS MATTERS.

#### I. THE MARINE SURVEY.

From the Zoological Department of the Survey not only have the collections been greatly enriched, but the Museum has also for more than five months of the year profited by the services of an able and enthusiastic naturalist. Dr. A. B. S. Anderson named a large collection of Echinoids, co-operated with me in naming and describing the Crustacea, and in his leisure time gave me much valuable help in determining and mounting the specimens for exhibition in the Reptile Gallery.

The Artist to the Survey, Babu Shib Chunder Mondol, worked in the Museum throughout the year, and made a number of beautiful drawings to illustrate the zoology of the *Investigator*.

#### II. EXTERNAL ASSISTANCE, EXCHANGES, ETC.

During the year Mr. Edgar A. Smith, of the British Museum, named and described our deep-sea collection of

## INDIAN MUSEUM.

Mollusca (excepting Cephalopods), and Mr. Smith has been authorized to undertake to name our more select acquisitions in future, on condition that duplicates and cotypes are retained for the National Collection.

Mr. G. F. Hampson named a miscellaneous collection of moths belonging to the Trustees' collections, and has consented to an arrangement similar to that concluded with Mr. Edgar A. Smith.

It is greatly to be hoped that arrangements of this kind, which lead to solid reciprocal benefit, may be confirmed and extended in the future.

To Messrs. G. B. Buckton, A. Fauvel, A. Forel, L. O. Howard, W. M. Maskell and F. Moore, the Superintendent is greatly indebted for identifications of insects destructive to agriculture.

The collections of Alcyonarian Corals, Hexactinellid Sponges, and Cephalopod Mollusca, entrusted respectively to Mr. W. L. Slater, Professor F. E. Schulze, and Professor E. Ray Lankester, have not yet been returned.

Exchanges for mutual benefit have been effected with (1) the British Museum—squirrels' skins given for specimens of Indian Amphibia before wanting to the Trustees' collection; (2) Professor de Lorient of Geneva and Dr. Koehler of Lyons—Indo-Pacific Echinoderms for named European Echinoderms; (3) Cambridge University—Indian deep-sea Invertebrates for several Mediterranean Invertebrate types of which the Museum was much in need for teaching purposes; (4) Mr. H. Fulton—Indian deep-sea Mollusca, for various Mollusca not previously represented in the collection; (5) the Lucknow Museum—a Rhinoceros skeleton in return for the skeleton of a female elephant.

## REPORT OF THE SUPERINTENDENT,

Donations of duplicates of Indian deep-sea Fishes, Crustacea, Mollusca, and Coelenterata have been made, in the name of the Trustees, to the British Museum and to the Smithsonian Institution, in acknowledgment of the valuable publications so freely presented to the Trustees' Library by these Institutions.

Three sets of specimens and drawings of the *Boro polo*, *Desi*, and *Nistry* varieties of the silkworm in all the stages of their development were sent to Mr. F. Moore.

### III. LOSSES.

In the course of re-arranging the Bird and the Fish Galleries a number of old specimens, dangerous to the collections as a whole, have been removed and burnt.

Two specimens of Ungulates, infested in every part with *Dermestes*, were also removed from the Mammal Gallery and destroyed. Some putrid Fishes and Oxyrhynch Crabs have also been thrown away.

### IV. NUMISMATICS.

The coin catalogues and acquisitions have already been noted in the proper place: here the Superintendent has specially to record continual obligations to Dr. A. F. R. Hoernle in all matters connected with this difficult subject.

A set of Malava coins were exchanged with Dr. Hoernle for a set of Nepalese coins.

### VI. CONCLUSION.

Appendices showing (1) Summary of registered additions for the year, (2) List of Donors to the collections, (3) List of

## INDIAN MUSEUM,

Donors to the Library, (4) Yearly Return of visitors, are annexed.

From the last it will be seen that 480,042 persons were admitted to the Museum during the 239 days on which the Institution was open to the public—a daily average of 2,008·2.

The collections so far as is known are in good order, and the not very extensive ravages of the *Dermestes* beetle have been checked. The objectionable exhibit of a Lion from Algiers fighting a Tiger from Lower Bengal is, however, much affected by *Dermestes*, but being isolated from the main body of the collections, is not immediately likely to endanger them, but it will have to be destroyed soon.

The condition of the main building is apparently unchanged, and superficial repairs have been carried out during the year.

All the out-houses, godowns and sheds, except those in actual continuity with the main building, were demolished during the year to furnish a site for the new east wing, the foundations of which latter have been most massively laid, and the ground floor, so far as brickwork is concerned, almost finished.

To replace that part of the out-houses in which the menial servants of the Trust were accommodated, new servants' godowns were built to the south of the Museum tank—between the tank and Kyd Street, and these were formally taken over and occupied in the month of October.

The reserve collections that were displaced by the preparations for the new east wing have been temporarily stored in

REPORT OF THE SUPERINTENDENT,

the ground floor of the Sudder Street (Economic) extension; and for store-rooms and workshops, which also were demolished to make way for the new site, temporary accommodation has been found in one of the old Exhibition sheds.

A. ALCOCK,

*Superintendent, Indian Museum.*

# INDIAN MUSEUM.

## Appendix A.

Summary of registered additions for the year 1894-95.

<b>ZOOLOGY—</b>									
<b>PROTOZOA—</b>									
FORAMINIFERA—									
Donations	...								
<b>CCELENTERA—</b>									
<b>HYDROMEDUSÆ—</b>									
Donations	2								
<b>ANTHOZOA—</b>									
Donations	74								
<b>ECHINODERMA—</b>									
<b>HOLOTHURIOIDEA—</b>									
Donations	44								
Exchanges	12								
<b>ECHINOIDEA—</b>									
Donations	346								
Exchanges	6								
<b>OPHIUROIDEA—</b>									
Exchanges	21								
<b>ASTEROIDEA—</b>									
Donations	10								
Exchanges	21								
<b>CRINOIDEA—</b>									
Exchanges	3								
<b>ARTHROPODA—</b>									
<b>CRUSTACEA—</b>									
Donations	1,521								
Purchases	2								
<b>ARACHNIDEA—</b>									
Donations	2								
<b>HEXAPODA—</b>									
Orthoptera—									
Donations	7								
Rhynchota—									
Donations	26								
Neuroptera—									
Donations	1								
Coleoptera—									
Donations	89								
Reared in Mus.	20								
Lepidoptera—									
Donations	63								
Purchases	90								
Reared in Mus.	178								
Hymenoptera—									
Donations	40								
Diptera—									
Donations	2								
<b>PODAXONIA—</b>									
<b>BRACHIOPODA—</b>									
Donations	21								
<b>MOLLUSCA—</b>									
Donations	333								
Exchanges	87								
<b>CHORDATA—</b>									
<b>CEPHALOCORDA—</b>									
Donations	129								
<b>VERTEBRATA—</b>									
<b>Mammalia—</b>									
Donations	13								
Purchases	3								
<b>SAUROPSIDA—</b>									
<i>Aves</i> (skins)—									
Donations	687								
Purchases	7								
<b>Reptilia—</b>									
Donations	53								
Purchases	3								
<b>ICHTHYOPSIDA—</b>									
<i>Pisces</i> —									
Donations	314								
Purchases	46								
		360	360	1,126	1,255	4,226	...	Zoology.	
<b>ARCHÆOLOGY—</b>									
Prehistoric Relics,									
Sculptures and									
Miscellaneous.									
Donations	120								
<b>Coins—</b>									
Donations	129								
Exchanges	5								
Purchases	71								
					205	325	...	Archæo-	
								logy.	
TOTAL SPECIMENS REGISTERED DURING THE YEAR . . . . .									4,551





# INDIAN MUSEUM.

## APPENDIX B.

### *List of Donors to the Indian Museum during the year 1894-95.*

Alcock, Dr. A.	Giglioli, Mr. E. H.
Amritsar, Municipal Committee.	Government of Assam.
Anderson, Dr. A. R. S.	" " Bengal.
" " J., F.R. S.	" " Bombay.
Archæological Survey of Bengal.	" " Burma.
Armstrong, Dr.	" " Central Provinces.
Beard, Mr. J. E.	" " India.
Bengal, H. H. the Lieut.-Governor of.	" " Punjab.
Bettiah, Sub-Divisional Officer of.	Green, Dr. C. R. M.
Bishop, Capt.	Hoernle, Dr. A. F. R. (by exchange).
Boileau, Mr. K.	Hyde, Rev. H. B., M.A.
Booley, Mr. G. H.	India, Private Secy. to H. E. the Govr. General of.
British Museum (by exchange).	Jaintia, Sub-Divisional Officer of.
Calcutta Mint.	King, Lt. R. G., R.E.
Cambridge, University Museum (by exchange).	Kitts, Miss Dorothy.
Cane, Mr. W.	Koehler, Dr. R. (by exchange).
Carey, Mr. C.	Leatham, Major G. H.
Carter, Mr. R.	Lisboa, Dr. J. C.
Coates, Mr. J. M.	Maguire, Mr. H. F. F.
Colombo Museum.	Marine Survey of India.
Crombie, Dr. A.	Maskell, Mr. W. M.
Dera Ghazi Khan, Dy. Commissioner of.	Meade, Mr. J. T.
Finn, Mr. F.	Milner, Mr. A. J.
Fraser, Lt.-Col. J.	Mollison, Mr. J.
" Mr. O. N. (the late).	Morrison, Mr. H.
Fulton, Mr. H. (by exchange).	Mukherji, Babu N. G.
	Norvill, Dr. F. H.

# REPORT OF THE SUPERINTENDENT,

Richter, Mr. G.	Targett, Mr. W. H.
Rickett, Mr. C. B., F.R.S.	Waller, Mr. G. D.
Row, Capt. J. H.	Walsh, Dr. J. H. T.
Royal Asiatic Society, Bombay Branch.	Watt, Dr. G. W.
Rutledge, Mr. W.	West, Mr.
Schmaker, Mr. B.	White, Mr. J.
Schneider, Mr. F. H.	Wicks, Capt. G. W., R. N. R.
Shillingford, Mr. F. A.	Wilson, Mr. J. P.
" " S. J.	Wood-Mason, Mr. J. (collection).
Smythies, Mr. A.	Woodrow, Mr. M.
Sowerby, Mr. G. B. (by exchange).	Woolward, Capt. C.
Swaries, Mr. C.	Zoological Gardens, Calcutta.

# INDIAN MUSEUM.

## APPENDIX C.

### *List of Donors to the Library of the Indian Museum during 1894-95.*

Adelaide, Royal Society of South Australia . . . . .	1
Alcock, Dr. A. . . . .	14
Anderson, Dr. A. R. S. . . . .	5
Bangalore, Government Botanical Gardens . . . . .	2
" Mysore Archæological Survey . . . . .	1
Batavia, Department of Education, Public Worship and Industry . . . . .	1
Berlin, Museum für Naturkunde Königl. Friedrichs-Wilhelms Universität zu Berlin . . . . .	13
Berne, Swiss Entomological Society . . . . .	33
Blanford, Mr. W. T., F. R. S. . . . .	1
Bombay Government Central Book Depot . . . . .	2
" Society of Natural History . . . . .	6
Boston, Society of Natural History . . . . .	1
Brussels, Société Royale Numismatique . . . . .	1
Calcutta, Asiatic Society of Bengal . . . . .	22
" Indian Museum, Economic and Art Section . . . . .	3
" " " Zoology and Archæology Section . . . . .	17
Cambridge (Eng.), University Museum . . . . .	1
" (Mass.), Museum of Comparative Zoology at Harvard College . . . . .	12
Cape of Good Hope, Albany Museum . . . . .	1
Cape Town, South African Museum . . . . .	1
Chili, Société Scientifique du . . . . .	5
Cincinnati Museum Association . . . . .	1
" Natural History Society . . . . .	1
Coldstream, Mr. W. . . . .	1
Colombo Museum . . . . .	1
" Royal Asiatic Society, Ceylon Branch . . . . .	3
Costa Rica, Museo Nacional . . . . .	3
Cotes, Mr. E. C. . . . .	20
Damon, Mr. E. F. . . . .	1
Dehra Dun Forest School . . . . .	16
Carried over . . . . .	190

# REPORT OF THE SUPERINTENDENT,

	Brought forward	190
Desbrochers des Loges, Mons. J.		4
Dresden, Königlichen Sammlungen		2
Dublin, Royal Dublin Society		6
" " Irish Academy		6
" " Science and Art Museum		1
Edinburgh, " " "		1
Friedlander and Sohn, Messrs. R.		29
Gaisford, Col. G.		2
Girtanner, Dr. A.		1
Government of Assam		3
" " Bengal, General Department		1
" " " Meteorological "		1
" " " Printing Press		9
" " Bombay, General Department		2
" " " Land Records and Agricultural Dept.		6
" " Central Provinces		8
" " India, Comptroller of India Treasuries		1
" " " Finance and Commerce		2
" " " Foreign Department		6
" " " Geological Survey		4
" " " Home Department		32
" " " Marine Survey		1
" " " Meteorological Department		33
" " " Printing Press		25
" " " Reporter on Economic Products		26
" " " Revenue and Agricultural Department		60
" " " Sanitary Commissioner		1
" " " Survey Department		1
" " Madras		3
" " North-Western Provinces and Oudh		33
" " Perak		34
" " Punjab		3
" " United States of America		5
Haarlem, Koloniaal Museum		57
Hansen, Dr. H. J.		1
Jeypore, Forest Department		1
Jodhpur, " "		1
Karachi, Collector of Customs		5
Kington, Institute of Jamaica		1
	Carried over	607

# INDIAN MUSEUM.

	Brought forward	607
Kochler, Dr. R.		1
Lahore Museum		1
Leipzig, Königlich-Sachs. Gesellschaft der Wissenschaften		5
Lewis, Mr. G.		1
Lintner, Mr. J. A.		2
Lisbonne, Academie Royale des Sciences		9
London, British Museum		8
" Royal Society		9
" Zoological Society		8
Madras, Government Central Museum		7
Meerut, Civil Veterinary Department		2
Melbourne Exhibition		1
Meriden, Scientific Association		1
Minneapolis, (United States, America) University of Minnesota		1
Monaco, S. A. S. le Prince Albert de		1
Moscou, Congres Internationale		2
Milwaukee, Public Museum of the City of		1
Munn, Mr. P. W.		1
Nebraska, University		11
New York, American Museum of Nat. Hist.		3
Nova Scotian Institute of Science		2
Ormerod, Miss E. A.		1
Oxford, University Museum		1
Padova, R. Stazione Biologica Sperimentale		11
Philadelphia, Academy of Natural Sciences		5
" Zoological Society		1
Rio de Janeiro, Museo Nacional		1
St. John's (Antigua) Department of Agriculture of the Leeward Islands		3
St. Louis, Academy of Sciences		17
Salem, Essex Institute		12
Schultze-Rechberg, Dr. A. V.		1
Selater, Mr. W. L.		2
Smith, Mr. E. A.		1
Stockholm, Kongliga Svenska Vetenskaps Akademien		2
Sydney, Australian Museum		1
" Department of Agriculture of New South Wales		11
" Linnean Society of New South Wales		5
Carried over		759

# REPORT OF THE SUPERINTENDENT,

	Brought forward	R.	759
Torino, Musei de Zoologia et Anatomia Comparata della			
Universita			27
Tufts College, Mass.			3
Ulwur State Council			1
Victoria, Zoological and Acclimatization Society			1
Vienna, K. K. Natur. H of Museum			4
Washington, Bureau of Ethnology			22
" Smithsonian Institution			10
" U. S. National Museum			20
Webster, Mr. F. M.			2
Weltner, Dr. W.			1
	Donations		850
Volumes purchased			734
	TOTAL		1,584

# INDIAN MUSEUM.

## APPENDIX D.

### YEARLY RETURN OF VISITORS.

*Number of Visitors from 1st April 1894 to 31st March 1895.*

Month.	NATIVES.		EUROPEANS.		TOTAL.
	Male.	Female.	Male.	Female.	
April 1894 .	31,362	8,658	478	135	40,633
May* " .	14,629	4,066	217	60	18,962
June " .	37,466	12,763	453	136	50,823
July " .	31,962	7,799	393	114	40,268
August " .	32,283	9,267	521	121	42,192
September " .	31,311	9,543	571	151	41,581
October " .	38,948	11,210	789	231	51,178
November* " .	15,157	4,578	270	76	20,081
December " .	35,804	8,939	1,365	554	46,662
January 1895 .	32,481	10,136	1,219	506	44,342
February " .	31,438	9,597	639	156	41,830
March " .	31,043	9,327	515	105	41,490
GRAND TOTAL .	363,884	106,383	7,430	2,345	480,042

The number of Visitors to the Museum during the 239 days on which the Institution was open to the general public was 480,042, or a daily average of 2,008 persons.

\* Closed on account of annual repairs from 1st to 15th May and 16th to 30th November.





ANNUAL REPORT  
OF  
THE ECONOMIC AND ART SECTION  
OF THE  
INDIAN MUSEUM  
FOR THE YEAR  
1894-95.

---

No. 45.

To

THE HONORARY SECRETARY TO THE TRUSTEES  
OF THE INDIAN MUSEUM.

*Dated the 6th July 1895.*

SIR,

I have the honour to submit the Annual Report of the Economic and Art Section of the Indian Museum for the year ending 31st March 1895.

2. I would venture to remind you that while perusing the paragraphs of this report the two, more or less independent, duties that devolve on me, render it somewhat difficult to confine attention purely and simply to matters that concern the Museum. As Reporter on Economic Products to the Government of India, a large portion of my attention has to be devoted to

## REPORT OF THE OFFICER IN CHARGE,

matters that may seem, at times, but indirectly concerned with the Museum. But while that is so, the subjects mostly dealt with by me, as Reporter on Economic Products, are more or less connected with products and manufactures, or the record of information regarding such, and hence it follows that the operations of that section of my office are very nearly inseparable from those of Officer in Charge of the Economic and Art Section of the Museum. Any report, therefore, of the one section of my official duties must necessarily embrace many operations of the other. I mention this circumstance since some of the paragraphs below may appear to deal with subjects that might more naturally be addressed to the Government of India than to the consideration of the Trustees.

3. Before proceeding to set forth the working of the Museum, I may as well endeavour therefore to dispose of certain matters that have a distinct bearing on both sections of my office.

4. A very first place must be assigned to the fact that during the year under review the Government of India have placed the office of the Reporter on Economic Products on a permanent footing and sanctioned an increase to the clerical establishment of that office. In consequence a by no means insignificant share of the duties that have hitherto overburdened the Museum staff, has been taken over by the now strengthened office of the Reporter. Of this nature may be mentioned a large proportion of the operations connected with the Imperial Institute, London.

5. Hitherto little or no progress has been made (since the publication of the Dictionary) in keeping up to date the set of boxes known as the "Ledgers," and which contain the files of information on products and manufactures. By the appointment of Mr. W. R. Yates, as Superintendent of these Ledgers, the Government of India have, however, removed this disadvantage, and I trust that the pro-

## ECONOMIC AND ART SECTION.

gress, which I take this opportunity of recording, that has already been made by Mr. Yates may be accepted as justifying the expectation that by the close of the current year the value of these Ledgers to the Economic and Art Section of the Museum may be fully appreciated. I may, perhaps, be excused the explanation that these Ledgers—the property of the office of Reporter—have been arranged in one of the rooms on the top floor of the Museum. They consist of some 200 boxes assorted in one alphabetical series according to the names of the products or manufactures dealt with by the files of papers placed within. Each box contains on an average information regarding 54 subjects. These papers are sewn into separate folios, each dealing with one subject, and it might be safe to say that each folio contains from 5 to as many as 200 or 300 passages. Gummed on to the pages of these folios are all the cuttings of books, periodicals, official correspondence, etc., etc., brought together up to the time when the Dictionary article on each subject was written. Subsequently the Dictionary article itself has been placed in these folios, and following this all the current pieces of information from recent publications. It is thus intended that we should be possessed of all available particulars in the form of cuttings from books, reports, correspondence, etc., etc., up to date, arranged in a convenient form. By this means it may be possible to furnish at a moment's notice any desired piece of information called for either by Government or by the public. This will be secured through the Museum Catalogue numbers and the Ledger numbers (the Dictionary being the basis of this system of cross-record) being shown on both the specimens in the Museum and on the Ledger boxes. Progress in the system of ledgering will in future be recorded in each year's report.

6. I regret to say that no direct steps have as yet been taken toward printing the catalogues, though  
Catalogues and Regis-  
ters certain essentially necessary preliminary

## REPORT OF THE OFFICER IN CHARGE,

pieces of work have been pushed forward. Among these may be mentioned the establishment of a more business-like system of registration than we possessed two years ago. Large volumes ruled and printed in a particular way have been adopted as the permanent registers of each gallery. The collections have been compared and checked off with the old registers and recorded in the new, but in such a way that their relation to any one of the numerous old registers may readily be traced out. One continuous serial has thus taken the place of the multiplex numbering of the old registers. These new registers were alluded to in paragraph 12 of last year's report, and it is only necessary to say that in the Ethnology and Economic Galleries the work of amalgamation is now complete so that additions to these galleries may be registered as received.

7. As part of the scheme of cataloguing, I have also matured  
**Descriptive sheets or** a system by which, near each class of  
**Public Registers.** exhibits, will be placed what may be  
**(Conf. with para. 37.)** called a "Public Register" which can be  
kept up to date. This consists of a series of card-board pages  
or descriptive sheets, that fit into a wooden frame in such  
a manner that when placed on a table, near the cabinets of  
specimens, the cards may be turned over like the pages of a book.  
By means of a key, opening the wooden frame, a page may be  
moved or one added, as found necessary, without in any way  
disturbing the others. On these cards will be shown the numbers  
given to the specimens, the Dictionary number, the Ledger num-  
ber, together with such information as name and address of  
maker, price paid by Museum, etc., etc. Should a visitor wish to  
be supplied with any further particulars, it is intended that a  
printed notice on each of these public registers will inform him  
that by calling at the enquiry office and quoting the *Ledger*  
*Number*, he may be permitted to consult our folio of information.  
In this way the Ledgers become an essentially necessary feature

## ECONOMIC AND ART SECTION.

of the Museum. The Public Registers remove the defect, that, very shortly after any catalogue is printed, it falls out of date through subsequent additions having been made to the Museum collections. As additions are acquired, new pages are added to the Public Registers, and when fresh editions of the catalogues are called for, these can be rapidly prepared from the registers and ledgers.

8. The Ledgers above dealt with are mainly, however, Ledgers of Raw Products. But I contemplate at some future date to split these up into three sections—(a) Raw products, (b) Manufactures, and (c) Ethnology,—so that the system briefly sketched as being already so far advanced, may embrace each section of the Museum independently, the corresponding ledgers being kept in one of the adjoining rooms to each gallery. This, however, cannot be attempted until the re-arrangement of the collections has been accomplished, which was briefly sketched in my letter No. 928, dated 17th March 1894, which I had the honour to submit for the consideration of the Trustees. This re-arrangement I am in hopes may be slowly taken in hand, without the Museum being closed to the public. As soon, for example, as all the specimens of pottery have been recorded on the card-board pages of the public register, the specimens will be carried from the numerous cabinets through which they are at present dispersed and assorted near each other in the part of the gallery assigned for that class of exhibits. When so arranged, it will be possible for the visitor to study the various styles of pottery side by side, instead of having to travel backwards and forwards from one end of the gallery to the other in order to do so. This principle I intend shall apply to each of the three galleries. All samples of Dyes and Dyeing materials shall be placed in one bay of the Economic Gallery, and similarly all Agricultural Implements in a distinct section of the Ethnological Gallery. I mention these

## REPORT OF THE OFFICER IN CHARGE,

proposed arrangements mainly in explanation of the work already accomplished, but at the same time with the view of marking future progress.

9. You are aware that during the year under review the experimental bay of the Economic Gallery, which <sup>Fittings of Economic Gallery.</sup> (Conf. with para. 36.) was sanctioned by the Trustees in their letter No. 31 R. R., dated the 20th April 1894 (alluded to in paragraph 16 of last year's report), has been completed. This entailed a very considerable amount of labour. Drawings to scale of the fittings required for my scheme of arrangement (above briefly indicated) were made by me and handed over to Mr. T. N. Mukharji, before my departure from Calcutta. I venture to think that I shall not be going beyond what the Trustees will support me in, when I record that the manner in which Mr. Mukharji carried out the duties thus entrusted to him was very satisfactory. The bay was inspected by the Trustees on the 24th January 1895, and I believe I am correct in thinking that the scheme of arrangement and fittings, thereby exemplified, met with approval. It was subsequently inspected by His Honour the Lieutenant-Governor, Sir Charles Elliott, K.C.S.I., who, I also understand, expressed his approval of the system demonstrated by the experimental bay. The labour of designing and supervising that experimental bay must be recorded as one of the duties accomplished during the past year, and it need only be added that should effect be given to the entire scheme, the experience gained in filling up one bay will greatly lessen the labour and expense that may be anticipated in the others. But until the gallery is furnished, it is practically useless to push forward the preparation of collections, since the samples so made are *rapidly destroyed owing to our possessing no facilities for their preservation.* I cannot, therefore, urge in too strong terms the imperative necessity of giving as early effect as possible to any

## ECONOMIC AND ART SECTION.

steps the Trustees may contemplate in the direction of supplying the cases, bottles, boxes, etc., of this gallery.

10. The *Publications* issued by the Economic and Art Section of the Museum and by the Reporter on Economic Products, during the year under review, will perhaps be best understood by the explanatory paragraphs that follow :—

The Trustees are, perhaps, aware that the Government of India have recently issued, for the consideration of the Local Governments and Administrations, a scheme for the revision of the Dictionary of Economic Products. Should that scheme be finally accepted, it will of necessity become essentially connected with the operations of this section of the Museum and become in fact the most powerful agency possible in providing for the Museum a thoroughly complete collection of the articles of industrial value in India. It is contemplated by the scheme that a direct enquiry shall be instituted into the subject of every product regarding which information is defective. This may assume either of several forms. (a) Most Local Governments issue Bulletins of agriculture. It has been recommended that when Economic Products are dealt with in these Bulletins, the descriptive accounts of these should as far as possible be framed on the standard already adopted in the Dictionary. (b) It is proposed that the Reporter's office should issue skeleton articles on important subjects that would indicate the various headings on which information is defective ; further, that samples should be supplied where these are found necessary to finally settle doubtful points. (c) The Reporter's office has also been permitted to issue as its own Bulletin a publication now known as *The Agricultural Ledger*. In that publication is given useful particulars (derived from the Ledgers), or revised accounts of Economic Products, in which the errors or omissions of the Dictionary articles are corrected and the way thus prepared for local officers still further amplifying the information.



## REPORT OF THE OFFICER IN CHARGE,

11. (d) In connection with the operations arising out of the demands of the Imperial Institute, London,

Imperial Institute Annual Report and Programme.

it has been found necessary to publish both a Report and a Programme of the works accomplished or to be undertaken during each year. In last year's programme a selected number of products are shown, and regarding a good few of these, printed circulars were issued which asked for the required samples and also such information as was thought desirable. The circular letters issued had appended to them notes or fly-leaves on the products dealt with, and these, it is believed, have lessened very greatly the labour of the local officers to whom they were addressed, while they have become at the same time a further agency in procuring information. It is intended that in future the programme of the Institute collections shall be regularly prepared and printed (about the 1st of May) each year, and that the system of issuing Circular Notes on products be also continued. It is proposed that the Report shall be brought out on the 1st September, thus marking the progress made and allowing time for the preparation of the succeeding programme.

12. (e) But there is a still further scheme of regular publications entrusted to this office, *viz.*, the preparation of what have been called *Imperial Institute Hand-books*. These hitherto have been abbreviated reprints of the Dictionary accounts of the products—specimens of which had been collected for the Institute. That system has been modified and the Hand-books are now reserved for the purpose of giving, when we are in a position of doing so, the results obtained by all the other agencies above mentioned, so that each Hand-book may become an actual description of the collections made, and bring, so to speak, the information regarding these up to date.

13. With these explanatory remarks it may now be said that the tables given in paragraph 16 will be found to exhibit the list of *Agricultural Ledgers*, *Imperial Institute Circular Notes*,

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issued during the year, but in this place mention may be made of three other special publications which were also issued :—

- 1st.*—Memorandum on the resources of British India, by the Reporter ;
- 2nd.*—A monograph on the Brass and Copper Manufactures of Bengal ; and
- 3rd.*—Monograph of the Pottery and Glass-ware of Bengal, by the Assistant Curator.

The first of these special publications was undertaken at the request of the Government of India and in reply to certain questions raised by the Imperial Federation League. I may be pardoned the remark that this brief statement of India's resources met with the approval of Government, and was so favourably noticed by the public press that a very large number of copies (1,400) was rapidly distributed ; in fact a demand for the Memorandum still continues.

*14.* The other two publications were called for by the Government of Bengal. I take this opportunity of specially drawing attention to these Monographs on Bengal Industries. One might have been mentioned in last year's report as it was written, though not issued, before the close of the financial year. These Monographs were drawn up by Mr. T. N. Mukharji, and, I think, do him very great credit. But they are reports based mainly on the collections in the Museum (collections for the most part made many years ago) and are, therefore, only very indirectly representative of the present position of the industries concerned. This will be admitted as a serious defect because,—

- 1st.*—Information up to date is still required ; in fact it may be almost said fresh information alone justifies such publications.
- 2nd.*—Had Mr. Mukharji been permitted to institute direct enquiry, the effort to do so would have served to per-

## REPORT OF THE OFFICER IN CHARGE,

fect the Museum collections, since defects would have been discovered and corrected.

**15.** Should similar Monographs be called for in the future, I would therefore recommend an entirely different course being pursued. Mr. Mukharji should, in the first instance, draw up a brief statement, district by district, of the collections in the Museum. On this being provisionally printed, I would propose that it be issued to the district officers, asking them to furnish samples of any other manufactures (of the kind dealt with) than those shown in the list. It might further be necessary that Mr. Mukharji should be deputed to visit the districts indicated by our collections as being those of greatest importance, in order that he might institute personal enquiries and collect useful particulars regarding the industries. Such visits not only relieve district officers of the labour of numerous references, but they bring the Museum authorities into a definite personal relation with the industries under investigation. Now that the Reporter's office has been put on a more sound basis, there need be no difficulty in Mr. Mukharji going on tour for a week or two at a time. It may safely be affirmed that it is impossible that the persons in charge of collections intended to advance the manufacturing and industrial interests of the country, can travel too far or too frequently. Personal inspection is to such officers the laboratory where knowledge can alone be attained, and without that knowledge the collections become a dumb show, devoid alike of vitality or utility.

**16.** The following list shows the other publications that were issued during the year :—

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LIST OF THE PUBLICATIONS ISSUED DURING THE YEAR OR WHICH  
ARE IN TYPE AND WILL BE ISSUED IMMEDIATELY.

*The Agricultural Ledger of 1894.*

Annual Serial, within 1st January to 31st December 1894.	SERIES, NAME AND NUMBER.		SUBJECT.
	Name.	No.	
1	Miscellaneous . .	2	Introductory Note on the Ledgers.
2	Agricultural . .	6	Fodder—Silage-making in India.
3	Ditto . .	7	Manures—Farm-yard.
4	Miscellaneous . .	3	Botanic and Economic Collec- tions.
5	Vegetable . .	11	Lucerne— <i>Medicago sativa</i> .
6	Ditto . .	10	Rhea.
7	Agricultural . .	8	Assimilation of Nitrogen.
8	Veterinary* (special)	1	Rinderpest.
9	Ditto* (special)	2	Anthrax.
10	Ditto* (special)	3	Charbon.
11	Ditto* (special)	4	Horse Surra.
12	Ditto . .	5	Chinese Mules.
13	Ditto* (special)	6	Repression and Prevention of Cattle Diseases.
14	Ditto . .	9	Cattle and Buffaloes of Assam.

\* Issued only to Veterinary Department.

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*The Agricultural Ledger of 1894—concluded.*

Annual Serial, within 1st January to 31st December 1894.	SERIES, NAME AND NUMBER.		SUBJECT.
	Name.	No.	
15	Forest* (special)	1	Fruit Culture of the Himá- laya.
16	Agricultural . . .	9	Embankments in Agriculture.
17	Vegetable . . .	12	Report on Castor Oil.
18	Ditto . . .	13	Aloe fibre— <i>Agave americana</i> .
19	Entomological . . .	3	Eri Silk.
20	Vegetable . . .	14	The Palmyra Palm— <i>Borassus flabelliformis</i> .

\* Issued only to Forest Department.

*The Issues of the Agricultural Ledger arranged for 1895 of  
which Nos. 1 to 7 have been issued up to 31st March.*

Annual Serial, within 1st January to 31st December 1895.	SERIES, NAME AND NUMBER.		SUBJECT.
	Name.	No.	
1	Forest . . .	1	Cutch— <i>Acacia Catechu</i> .
2	Mineral . . .	4	Report on Indian Coals.
3	Agricultural . . .	10	Crops and Climatic Condi- tions.
4	Ditto . . .	11	Agricultural Improvements in Gya.
5	Ditto (Bombay Bulletin)	12	Dairy-farming.

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*The Agricultural Ledger of 1895—continued.*

Annual Serial, within 1st January to 31st December 1895.	SERIES, NAME AND NUMBER.		SUBJECT.
	Name.	No.	
6	Agricultural (Bombay Bulletin).	13	Management of Cattle.
7	Veterinary . . .	10	Oxen; Ongole or Nellore Cattle.
8	Vegetable . . .	15	Indian Cultivated Cottons.
9	Ditto . . .	16	Al dye— <i>Morinda</i> sp.
10	Veterinary . . .	11	Cattle of Burma.
11	Agricultural . . .	14	Report on Nagpur Farm.
12	Veterinary . . .	12	Cattle of Bahraich and Kheri.
13	Chemical . . .	1	Cane and Cane-sugar.
14	Ditto . . .	2	Well Waters and Soils in rela- tion to Tobacco Cultivation.
15	Entomological . . .	4	Locust Catchers.
16	Agricultural . . .	15	Night-soil—Disposal of.
17	Ditto . . .	16	Agricultural Improvements in Bara Banki District.
18	Veterinary . . .	13	Sheep-breeding in the Dec- can.
19	Ditto . . .	14	Breeds of Cattle in Mathura District.
20	Crop Diseases and Pests.	1	Fungoid Diseases of Crops.
21	Vegetable . . .	17	<i>Lathyrus sativus</i> .

# REPORT OF THE OFFICER IN CHARGE,

## *The Agricultural Ledger of 1895—concluded.*

Annual Serial, within 1st January to 31st December 1895.	SERIES, NAME AND NUMBER.		SUBJECT.
	Name.	No.	
22	Veterinary . . .	15	Breeds of Cattle in Harriana and Sirsa.
23	Implements . . .	2	The Indian Churn.
24	Veterinary . . .	16	Mysore Cattle.
25	Ditto (Bengal Bulletin).	17	Bankipore Cross-bred Cattle.
(1893) 15	Vegetable . . .	8	Ground-nut (written and issued during this year, though provided for in the programme of 1893).

Printed Circular Notes, issued in connection with Imperial Institute collections :—

Programme of 1893-94.	SUBJECT.
4	Acacia arabica.
10	Opium.
16	Abroma augusta.
17	Ægle Marmelos.
21	Carthamus tinctorius.
23	Rubia cordifolia.
24	Xylia dolabriformis.
25	Chickrassia tabularis.
27	Rhea.

## ECONOMIC AND ART SECTION.

17. Besides the foregoing, a very extensive correspondence was conducted and many collections made on the following subjects of the Programme (of which it was not thought necessary for the present to print circulars):—Cotton, Indigo, Sugar, *Cassia auriculata*, *Dalbergia latifolia*, Corundum, Wax, Tea, Aconites, Dyeing and Printing Industries, Agave, Isinglass, Jute, Sida, and Timbers for gun carriages.

18. In addition to the above publications, the printing and distribution of the School Lesson Sheets on "Locusts" (3381 issued) and "Wheat Weevil" (3450 issued) have been continued during the year. No new Lesson Sheets were, however, taken in hand, since it was found impossible to have them coloured until all the copies of the two sheets already being issued had been finished.

19. During the year 57 specimens of *Commercial Products* were sent to the Institute, of which the following may be given as an abstract statement:—

Imperial Institute Collections duplicate sets of which have been retained for the Museum.

Nature of Specimens.	No. sent.	Whence received.
Gums and Resins .	9	North-West Provinces, Central Provinces, Bombay and Madras.
Dyes and Tans .	30	Bengal, North-West Provinces, Central Provinces, Bombay, Madras and Burma.
Fibres . . .	3	Bengal.
Medicines . . .	5	Panjab, Bombay.
Food . . .	3	Bombay.
Timber . . .	7	North-West Provinces, Mysore, Madras and Burma.



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**20.** Besides Commercial Products the programme of the year's operations in connection with the Imperial Index Collections. Institute provided for the collection of some 300 samples of Index Products, and many of these were procured personally during the tours conducted by the Reporter.

**21.** The following statement may be here given of the products that were under investigation or collection during the year. The subjects shown in this statement have been recorded approximately in the order in which they were dealt with:—

*Statement showing Commercial Products under Collection or Investigation during the year 1894-95.*

Num-ber.	Name of Article.	Action taken.
1	Cotton . . . . *	Under scientific investigation by Reporter; large collections deposited in the Museum.
2	Indigo . . . .	Samples collected and duplicate sets kept for the Museum; article under further scientific investigation.
3	Sugar . . . .	Ditto ditto.
4	Acacia arabica, bark, pods, gum. (Circular Note issued.)	Many samples obtained; more being collected.
5	Cæsalpinia digyna, pods	Some specimens received; more being collected. *
6	Cassia auriculata, bark	Ditto ditto.
7	Dalbergia latifolia, timber.	Ditto ditto.
8	Corundum . . . .	Specimens being collected by the Geological Department.
9	Bees, Honey and Wax .	Large number of specimens received; collection closed.

## ECONOMIC AND ART SECTION.

*Statement showing Commercial Products under Collection or Investigation during the year 1894-95—(contd.)*

Number.	Name of Article.	Action taken.
10	Opium . . . . (Circular Note issued.)	Large number of specimens received.
11	Tea . . . .	Under investigation by Reporter.
12	Aconites . . . .	Some specimens received ; more being collected.
13	Coix, grain . . . .	Collection taken in hand.
14	Juar . . . .	Collection not commenced yet.
15	Specimens illustrating Dyeing and Printing Industries.	A large number of specimens collected.
16	Abroma augusta, fibre . (Circular Note issued.)	No specimens collected ; will probably have to be cultivated.
17	Ægle Marmelos . . . (Circular Note issued.)	Some specimens received ; more being collected.
18	Æschynomene aspera .	Specimens being collected.
19	Agave, fibre . . . .	Specimens collected.
20	Bixa Orellana, seeds .	Specimens being collected.
21	Carthamus tinctorius, oils. (Circular Note issued.)	Some specimens collected ; others expected.
22	Isinglass . . . .	Ditto ditto.
23	Rubia or Madder, roots (Circular Note issued.)	Ditto ditto.
24	Xylia dolabriformis . (Circular Note issued.)	Ditto ditto.

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*Statement showing Commercial Products under Collection or Investigation during the year 1894-95—(contd.)*

Number.	Name of Article.	Action taken.
25	Chickrassia tabularis (Circular Note issued.)	Some specimens collected; others expected.
26	Sida, fibre . . .	Being cultivated.
27	Rhea, stems and fibre (Circular Note issued.)	Some specimens received; others expected.
28	Timber for gun-stocks .	Specimens being prepared in the Forest Department.
29	Ventilago madraspatana, root.	Specimens received and duplicate kept for the Museum.
30	Oldenlandia umbellata, root.	Ditto ditto.
31	Eucalyptus, oil . . .	Report on samples supplied.
32	Morinda citrifolia, and other species, roots.	Some specimens received; under further investigation.
33	Oils from certain trees :— (a) Amoorah Rohituka. (b) Argemone mexicana. (c) Balanites Roxburghii. (d) Bombax alabarium. (e) Callophyllum tomentosum. (f) Cochlospermum Gossypium.	Efforts are being made to obtain specimens.

## ECONOMIC AND ART SECTION.

*Statement showing Commercial Products under Collection or Investigation during the year 1894-95—(contd.)*

Number.	Name of Article.	Action taken.
	(g) <i>Diospyros embryopteris.</i>	Efforts being made to obtain specimens.
	(h) <i>Flacourtia Catephracta.</i>	
	(i) <i>Lawsonia alba.</i>	
	(j) <i>Lepidium sativum.</i>	
	(k) <i>Litsaea polyantha.</i>	
	(l) <i>Mesua ferrea.</i>	
	(m) <i>Thevetia nerifolia.</i>	
	(n) <i>Vateria indica.</i>	
	(o) <i>Vitex trifolia.</i>	
34	<i>Flemingia congesta</i> .	Small quantity received from the Nilgiris.
35	<i>Euryale ferox</i> . .	Ditto from Manipur.
36	Turpentine as follows :—	
	(a) <i>Pinus excelsa</i> .	Expected from Dehra Dun.
	(b) <i>Pinus khasya</i> .	Received from Burma.
	(c) <i>Pinus longifolia</i> .	Expected from Dehra Dun.
	(d) <i>Pinus Merkusii</i> .	Received from Burma.
	(e) <i>Pinus Gerardiana.</i>	Being prepared by the Forest Department.
37	Jalap, ( <i>Ipomoea purga</i> ) .	Samples collected.

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*Statement showing Commercial Products under Collection or Investigation during the year 1894-95—(concl'd.)*

Number.	Name of Article.	Action taken.
38	Jute ( <i>Corchorus olitorius</i> and <i>C. capsularis</i> ).	Samples collected.
39	Castor Oil ( <i>Ricinus communis</i> ).	Ditto.
40	<i>Adhatoda Vasica</i> . . . .	Under investigation.
41	Indian Coal . . . .	Samples collected; fresh specimens to be obtained for examination.

22. Some of the subjects of the above table were only intended to be started during the current year, since they are likely to take several years to be completed. The brief notes given indicate, however, the action taken and whether or not printed circular letters had been issued.

23. But in addition to the above collections sent to the Imperial Institute (and duplicate sets of which were reserved for the Museum), 276 samples of products were sent to the Lahore Museum and a collection of 210 to the Turin Museum, Italy, from our surplus stocks.

24. Such then are some of the agencies that have been organised or perfected during the year—agencies through which the greatest possible advantage may be confidently anticipated in the future,—as also some of the results attained. Large collections have been made that will very shortly be scientifically determined, sets deposited in the Museums, and duplicates sent to the Imperial Institute. The remarks below (in the paragraph which deals with the

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Economic gallery) will, for example, be seen to record the receipt of 1,403 samples of products. But it may be said that progress in the direction of procuring and despatching collections has been greatly retarded through want of staff and want of the necessary storage accommodation.

25. Of some of the collections already investigated, or which are under investigation, it may not perhaps be out of place to give here very briefly a few of the practical and scientific results that have been or are about to be published in *The Agricultural Ledger*. These may be dealt with in the alphabetical order of the scientific names of the products:—

1st—*Boehmeria nivea* and *B. tenacissima* (China-grass and Indian rhea).

*The Agricultural Ledger* (No. 6 of 1894) sets forth the conditions on which the Government of India offered in 1870 a reward of £5,000 for the best rhea fibre-extracting machinery; in 1877 a second time made known its willingness to give Rs50,000 as a reward for the invention of such machinery; but in 1881 withdrew these rewards. The *Ledger* on this subject also dwells at some length on the fact that *B. nivea* is a more temperate-loving plant than *B. tenacissima* (though botanically they are referable to but one species) and urges that this distinction should be clearly kept in view. The Circular Note No. 27 on Rhea called for collections and suggested 12 features of the Rhea industry that should be carefully investigated. The following paragraph may be quoted from that note:—

"The appended copy of *The Agricultural Ledger* (No. 6 of 1894) will be seen to indicate the possible distinction between these two fibres—the Rhea being a sub-tropical and the China-grass a temperate plant—while it denotes also the probable areas of cultivation of these forms respectively. It is earnestly desired that this distinction should be kept in view. That no samples of fibre should be furnished without being accompanied with a botanical

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specimen dried according to the rules laid down in The Agricultural Ledger (No. 4 of 1894). And that all reports on cultivation of these fibres should avoid the error of regarding garden cultivations of one or two plants as prognostications of possible commercial success. It is well known that the plant can be grown almost anywhere in India, and that by care samples, of a few ounces in weight, of the most beautiful fibre, can be prepared by an infinite series of methods and machinery."

It has since come to light that the true China-grass (*B. nivea*) has been successfully acclimatized throughout India. In some localities doubtless with far less practical results than might have been attained with the indigenous plant. For example, towards the close of the year under notice the Reporter found both plants being grown almost side by side in Rungpore and again in Assam. But in the temperate tracts of India, such as in Kangra, the China plant may be described as having attained a high state of perfection. The late Mr. Montgomery introduced the plant into Kangra, and his widow, who still carries out her late husband's experiments with the fibre and has a large stock of plants on her estate, writes:—"The seeds had to be obtained direct from China at a considerable expense; but when planted the climate of Kangra and the locality of the Rambagh were found to be admirably suited for the cultivation of China-grass. Stems of 10 or 12 feet in height are produced rapidly and the roots give 3, 4, and sometimes 5 such crops a year." The Rambagh freehold, where the above experiments have been made, is now for sale.

The question as to whether the indigenous plant may not be found to produce an equally good fibre to the China race and to do so in the tropical regions of India, has still to be ascertained. To, in part, solve that problem large collections are now being made of both the tropical and temperate fibres, and these when procured will be transmitted to the Imperial Institute for comparative examination and valuation.

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### 2nd.—*Carthamus tinctorius* (Safflower).

The Circular letters addressed to the Governments of Bombay, the Panjab and the North-West Provinces, dwell very specially on the different nature of the oil said to be produced from the seed of this plant. It seems probable that in Bombay, for example, the plant grown specially for its oil may be scientifically an undescribed race of the species, distinct from the dye-yielding form, or if that be not so, that different methods of cultivation must account for the reputed properties of the plant mentioned by writers on this subject. So in the same way the fact that in the Panjab a similar oil is obtained from the seed of a wild species, *Carthamus Oxycantha*, has been presumed as being likely to throw light on the origin of the cultivated plant. The collections have not as yet come to hand, but they are anticipated to be of considerable scientific and practical value.

### 3rd.—*Flemingia congesta* (Warras Dye).

A great deal has been written on the subject of the African Warras dye for which the Indian *Kamela* has been sold as a substitute. It has now transpired that in point of tinctorial merit the *Kamela* is more valuable than the Warras. Specimens were, however, collected of Warras from the Indian forms of *Flemingia* which thus confirm the correctness of the determination of the African dye.

### 4th.—*Gossypium* species (Berar and Central Provinces Cottons).

During my tour of exploration through the Berars it was ascertained that within comparatively recent times a complete change had taken place in the nature of the staple grown. The superior indigenous races had been entirely displaced by inferior imported ones. These yield a higher return in weight to acre but of a far inferior quality. In fact the cottons of certain districts, once of high merit, can only be sold at all now by being carried by the growers to other districts that still enjoy a fair reputation



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and sold as cottons of these districts. I was much surprised to find that it was impossible anywhere in these once famous cotton fields to find a crop of pure cotton. Two or three Indian forms were invariably grown intermixed, and along with these very rarely less than 15 to 20, or even as high as 40 per cent. of a degraded form of the American cotton, now known as saw-ginned Dharwar (*G. hirsutum*). Hitherto it has been presumed that the American cottons had only been acclimatized and adopted to any extent by the cultivators of a portion of the Deccan. My explorations in Berar and in Nagpur and Wardah Districts of the Central Provinces have shown these cottons to be all but universal in these provinces as well, and in the manner indicated above. The occurrence of American cottons in these provinces surprised me immensely, and I was uniformly told by the cultivators this was to give an apparent length of staple to the otherwise very short staples that were being grown. It would be anticipating my detailed report on cotton to deal further with this subject here, but I may be permitted to add that as I proceed with the study of the cultivated cottons of India, I become the more convinced that to publish a report on the cottons of any one province would be most misleading, until such time as I have been able to personally inspect the whole Indian cotton area. In Kangra, for example, the cottons seen were found to belong to a very different species to those of the plains of the Panjab and of most other parts of India, *viz.*, *Gossypium Nanking, Meyer*. They are, in fact, far more nearly related to the cottons of Japan and China than to those of India. I had seen an occasional example of this cotton in the Simla District, but was not a little surprised to find the uniformity of the crop in Kangra and its wide dissimilarity to anything seen on the plains of India. A correspondence extending over years would very possibly not have secured the very instructive information thus obtained during a march of a few days' duration through the valley of Kangra.

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### 5th.—*Morinda citrifolia* (*Al* Dye).

*The Agricultural Ledger* on this subject will, I trust, be found of special interest. In it Professor Hummel and Mr. Perkin's simple process of extracting the dye (for which India is indebted to the Imperial Institute) has been briefly reviewed. These distinguished Chemists have found that from the powdered roots by simple washing in water, all the deleterious ingredients are removed and a concentrated dye-stuff produced fit for immediate use. This prepared dye-stuff might be exported in a convenient and compact form and possibly command a ready sale. Even in India the cheapness of transport and facility of use might allow of the dye-stuff more successfully contesting the ground taken from it by the aniline dyes. The discovery is, therefore, worthy of being widely made known, since, if anything is calculated to revive the declining industry of *al* growing and dyeing, this simple contrivance might be expected to do so.

Some scientific interest will, I trust, also be attached to the investigations conducted by me in Berar and the Central Provinces by which I have come to establish the opinion that *Morinda tinctoria* is but a cultivated state of *M. citrifolia*. By a process of selection (unconscious it may have been) the cultivators have produced a sub-herbaceous annual or biennial crop of a few inches in height (*M. tinctoria*), from a perennial tree (*M. citrifolia*) 40 to 50 feet in height. Owing to the disfavour into which *al* cultivation has now fallen, however, there seems the strongest probability that this very interesting field crop may be lost. The greatest possible distress is being experienced throughout the *Al*-growing districts, and it may in all fairness be said that the introduction of aniline dyes has not only ruined the indigenous industry but is destroying the artistic instincts of the people.

### \* 6th.—*Oldenlandia umbellata* (Chay-root).

The dye-stuff which yields the beautiful red, once on a time so popular in the *bandana* handkerchiefs, is the root of this plant.

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A large supply of these roots was procured and sent to London to be investigated under the supervision of the Imperial Institute. Professor Hummel undertook the chemical and tinctorial investigation, but his detailed report has not as yet been furnished. He called for still larger supplies both of the wild and the cultivated plant and these have been supplied.

### 7th.—*Rubia cordifolia* (Madder or Manjit).

The Imperial Institute having desired that attention should be given to this dye, a detailed circular letter was prepared and issued to all the districts where the plant was known to occur. It was desired to ascertain if there were variations in the yield of dye, due to climatic or other influences, or to the existence of distinct races of the plant, if indeed amongst these it might not be found desirable to re-establish the independence of *Rubia Manjista* from *R. cordifolia*. As the result of this enquiry a large series of specimens have been received and are being still received that promise to be of much interest. Among these may be mentioned the contribution from Kumaon of a species of *Gallium* under the opinion that it was a small form of *Rubia cordifolia*. This *Gallium* would seem to undoubtedly afford dye-yielding roots, and as this circumstance has never before been recorded, it is of some interest as extending the series of Rubiaceae plants (*Rubia*, *Morinda* and *Oldenlandia*) that afford red dyes.

### 8th.—*Sida* Fibre.

More than 50 years ago this fibre was brought to the attention of the manufacturers of that time. It was much admired and spoken of as far finer than jute; still it did not find a place in trade. It has also been largely experimented with in Australia. During the Colonial and Indian Exhibition in 1886 an effort was made to induce the Belfast manufacturers to experiment with it. Messrs. Cross, Bevan and King submitted the fibre to several tests and reported most favourably. Still, little progress was made toward establishing a demand. The Imperial Institute has now taken

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up the subject and are pushing it to some advantage, but apparently a false opinion prevails, *viz.*, that it is as a superior quality of jute that Sida should be exploited. Unless a higher purpose than that can be found for it, the subject may at once be abandoned, for there is nothing to show that it could be produced at a price in any way to compare with jute. It is a much smaller plant, accordingly the yield per acre must be considerably less. Moreover, like most Malvaceous fibres it is finer in texture, but more difficult of separation than Tiliaceous fibres, so that the expense both of production and separation must be higher than in jute. Unless, therefore, its merits are such that it can take a position intermediate in textile merit to that of Jute and Flax and accordingly command a higher price than even the finest qualities of jute, the enquiry into this fibre had best be abandoned.

### *9th.*—*Ventilago madraspatana.*

This climbing shrub is found in the Western Peninsula from the Konkan southwards. The root-bark affords one of the most highly valued and beautiful of Indian dyes. In 1893 a fairly large supply was obtained from Madras and sent to the Imperial Institute for examination. This was undertaken by Professor Hummel of Leeds, in conjunction with Mr. Perkin. These distinguished Chemists have now submitted a preliminary report. They have succeeded in isolating the colouring matter which they have designated *Ventilagin*. The *Ventilago* colours somewhat resemble those obtained from Cam wood or from Lima wood, but these Chemists add that they "have been unable to find any other colouring matter possessing exactly the same dyeing properties." Their experiments were not, however, complete owing to the insufficiency of the sample furnished. A larger quantity was, therefore, obtained during the year and supplied, and at the same time steps were taken to procure an assortment of fabrics dyed by the native methods so as to allow of comparison with the European results.

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### *10th.*—Other Products Investigated.

In addition to the above subjects of enquiry and report others were similarly dealt with, during the year under review, but space can only be afforded for brief mention of some of these. A report was obtained from the Institute on the subject of Indian coal which has been given to the public in the form of a *Ledger*. Another report also procured from the Institute, affords useful particulars regarding our collections of Castor oil, and this has in a like manner been issued as a *Ledger*. In 1893 provision was made for the issue of an *Agricultural Ledger* on Ground-nut. This subject was taken up by me during the year and many enquiries instituted which have now been incorporated in a review of the subject that it is hoped may be found of practical value. Investigations have also been conducted into the subjects of Gums; Wax and Honey; Dyeing and Calico Printing; Tanning materials; Opium, etc.

The Inspector-General of Forests has also undertaken to institute a special enquiry, each year, into the

#### Forest produce.

subject of two timber trees and to make not only collections of the woods of these but of every product they are known to afford. The trees selected for the year under notice were *Chickrassia* and *Xylia*, and extensive collections of these have been obtained or promised. By this very liberal undertaking the Museum will in a few years come to possess a thoroughly exhaustive collection of Indian Forest Produce.

26. I left Calcutta for Simla on the 15th May 1894; during my

#### Tours of exploration.

stay there I organized a collection of all the Economic Products briefly touched upon above which could be procured in the Simla neighbourhood. I again left Simla on the 18th September for Kullu and Kangra, being directed by the Government of India to take up, in addition to such articles of the year's programme as could be procured during an exploration of these districts, the subject of Tea Blights and also that of China-grass (*Boehmeria nivea*).

## ECONOMIC AND ART SECTION.

27. My investigations on the former subject being still incomplete, I need hardly touch on what was accomplished in Kangra except to say that I found neither mosquito, green fly, nor red-spider. Thread-blight, grey-blight and the other fungoid diseases of the tea plant in Assam and other tea districts were also unknown in Kangra. The small Aphis, *Ceylonia theæcola*, was, however, found fairly abundant, as also a species of *Lecanium*. But the pest that gave most cause for anxiety was a species of *Amatissa*, probably *A. consorta*, there known as *Barola*. As compared with other tea districts Kangra may be said at present to be free from blights.

28. During that expedition on the higher Himalaya a large collection of seeds of temperate plants was made as also collections of plants of botanic interest. These were handed over to Dr. George King, Superintendent of the Royal Botanic Gardens, and only those retained for the Museum that were possessed of economic interest. At one of the highest altitudes reached by me a new species of *Primula* was collected which I propose shortly to describe and to give it the name of *Primula Traillii*.

29. The economic and practical results of this special exploration of Kullu and Kangra I propose also to publish in the form of an issue of *The Agricultural Ledger*, and therefore I need hardly enlarge on the subject here, though I shall take the liberty to give below a few passages (on the medicinal plants collected by me) taken from my address to the late Medical Congress of Calcutta, where I had the honour to be appointed a President in the Pharmacological Section.

30. From Lahore I proceeded to the Central Provinces and Berar, being under the orders of the Government of India to resume my investigations into the subject of Cotton. This tour lasted from November 21st to December 20th, on which date I returned to Calcutta.

31. I need only here remark that the few observations already given under the subjects of *Gossypium* and *Morinda* manifest

## REPORT OF THE OFFICER IN CHARGE,

the chief discoveries made while in Berar and the Central Provinces. Much attention was, however, paid to the subject of the fungoid blights of the crops. Linseed was found very badly rusted with *Melampsora Lini*. The wheat crop was in too early a stage to be blighted, but careful search was made for an *Æcidium* that might be the cause of wheat rust. In this I failed completely. I also looked for any "volunteer" or self-sown wheat blighted, but in this also met with failure. None of the other graminaceous crops were seen to bear *Puccinia graminis* or *P. Rubigo-vera*, nor were these rusts found on wild grasses. The *Juar* crop as also many wild grasses were, however, found to bear *P. Penniseti*. In a forthcoming issue of *The Agricultural Ledger* I have incorporated the chief features of my investigations into the subject of the Fungoid Diseases of Crops, with special reference to my recent explorations in the Berars and the Central Provinces.

A large and valuable collection of botanical specimen *Gossypium*, as also of raw cottons, was secured from these provinces; these have been duly registered, and deposited in the Museum, as also of *Morinda*. The cotton samples shall be fully worked up in my detailed report on the Cotton industry.

32. Among the many interesting minor discoveries made in the Central Provinces may be mentioned the fact that, contrary to all previously published information on the subject, I found *Patchouli* a regular article of cultivation and trade by the growers of *Pan-leaf* in these provinces. Some attention was also paid to the manufacture of *Rusa oil* and particulars collected that will afford material for a useful contribution to our knowledge of that subject. I propose (as in the case of Kullu and Kangra) to very shortly issue a number of *The Agricultural Ledger* dealing with the general results of my explorations in the Central Provinces and the Berars.

33. I would now beg to append a few passages from my address (above alluded to), since these briefly deal with some of

## ECONOMIC AND ART SECTION.

the economic products collected by me during the explorations conducted last year :—

(1) Rhubarb (*Rheum Emodi*)—*Chukri*.—In the village of Baijnath, Kangra, the traders with whom I conversed informed me that they annually exported about 1,000 maunds of this root to the plains. That it was used as a purgative, but more particularly as an ingredient in certain preparations applied to wounds and for ophthalmia.

The use of Indian rhubarb as an external remedy does not appear to have been mentioned previously, but while I am not prepared at present to recommend its being experimented with in that direction, I venture to think that a trade of the magnitude I have indicated is far in excess of the total previously recorded for all India, yet the figure I have mentioned was given to me by several independent persons and was subsequently confirmed at Palampur, Kangra City, and other localities. The total exports from Kulu and Kangra must, therefore, be very considerable.

(2) *Karu* (*Picrothiza Kurroa*).—Although considerable confusion exists in the writings of many authors regarding this root, and a series of articles have been more or less collectively designated *Kutki*, there is no doubt of the fact that *Karu* is both a popular and valuable drug. In small doses it is said to be a bitter stomachic useful in dyspepsia, in larger doses antiperiodic while possessing in addition a useful purgative action.

The plant is very prevalent throughout the Himálaya at altitudes of 10,000 to 15,000 feet. Its collection and transportation gives employment to a larger number of persons. In Kangra alone during a march of about a week's duration, I must have seen quite 100 mule-loads of this drug being carried toward the plains.

(3) *Gentiana Kurroa*.—This is one of the plants confused with and said to be sold along with, the true *Karu*. In Kullu valley from Mangalore to Sultanpur it is very prevalent, growing among the grass. It was in full flower in October, but although



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I asked nearly every person with whom I came in contact I could never learn that it was put to any use and certainly never heard it receive the name of *Karu*. There seems, however, no doubt of the fact that this very prevalent and beautiful plant could be supplied in large quantity, should a demand arise for it as a substitute for the officinal Gentian.

(4) *Actæa spicata*.—This might be procured in very large quantities from the higher ranges of the Western Himalaya. Although I showed the plant to several drug collectors (whom I met on the hill-sides) they knew nothing of its uses nor could give me any vernacular name for it. They informed me its chief value was as an adulterant, for the very expensive drug (said to be imported from Tibet) which is known as *Mumira* (*Coptis Teeta*).

(5) *Mumiai* is sold in all the drug shops of Kangra. It is imported from Lahoul and Tibet and finds its way from Kangra all over India. I need scarcely call to mind the periodic panics that appear at hill stations (no one knows how) from a report having got abroad that so many persons were to be captured and made into *Mumiai*. So long as this scare lasts it is often extremely difficult to get persons to go messages, especially after nightfall. The article as sold in the bazaars has not, however, been made from human fat, but is of a mineral nature and is sometimes known as *Silajit*, being found as an exudation from the soil or in crevices in the rocks.

(6) *Valeriana Hardwickii*.—*Nahani*.—This is very largely exported from these hills and appears to be used in India both as a perfume and as a medicine. According to the drug-sellers of Kangra it is an antispasmodic. It seems well worthy of careful examination as a substitute for the Valerian of the pharmacopœia. The point of importance regarding it lies in the fact that although most writers on the subject do little more than suggest that it may be used, or that it is desirable it should be tried, it was found in every drug shop as a regular article of trade

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and was well known to the collectors, who pointed out the living plant in the jungles as the *Nā anī* of their trade.

(7) *Viola serpens*—*Banafsha*.—This is very largely traded in, from the Western Himālaya. The interest in it consists in the fact that the true *Banafsha* is doubtless the flowers of *V. odorata*, a species very much more rarely met with, and it is thus possible the Indian substitute possesses none of the properties of the drug which is so much admired by many Muhammadan physicians.

(8) *Aconitum heterophyllum*—*Atis* or *Patis*.—It is, perhaps, unnecessary for me to say anything regarding this very valuable drug further than that it forms an extensive article of trade from every town in Kangra and Kullu.

(9) *Aconitum Napellus*.—The only form of this plant found by me on the higher ranges was a condition with very pale blue flowers and small conical roots. It is neither collected nor traded in from Kangra, so far as I could learn, though, of course, it was well known to the hill people to be poisonous.

(10) *Impatiens sulcata*.—The seeds of this very tall balsam are regularly eaten, and a medicinal oil is also said to be extracted from them, which is regarded as of special merit, but of the exact properties of which I could get no definite information.

Before dismissing the subject of the articles of export trade from the drug shops of Kangra, I should like to mention by name a few other articles that are of considerable commercial value.

(11) *Kul*, the Costus of the Greeks (*Saussurea Lappa*).—This valuable perfume has not hitherto been regarded as exported from Kullu and Kangra. I ascertained that there was a considerable trade in the root, and I collected the plant in one or two of the ranges at 8,000 feet in height. We must, therefore, now add these regions to the published area of supply.

(12) *Dhup* (*Jurinea macrocephala*).—The roots, *dhup*, of this large handsome plant (*gugul*) are extensively collected and exported all over India as one of the chief ingredients of the

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incense burnt at temples. That article as prepared on the hills consists of the roots of this plant made up with the wood, leaves and berries of the juniper, a little *Jatamansi*, some sandal-wood and a small quantity of camphor. While examining the ingredients of *dhup*, I observed that the trader kept pepper-corns with his camphor, and I was told that these prevented the evaporation of the camphor. I have heard this stated before, but have not as yet had an opportunity of definitely testing its truth or otherwise. If it be true, the fact should be of great value to museums.

(13) *Madder* or *Manjit* (*Rubia cordifolia*).—The roots of this most valuable dye-plant appear to be regularly collected all over Kashmir, Kangra and Kullu. This fact does not seem to be sufficiently well known to the trade, and it is possible that as aniline dyes find their way more completely to the remoter tracts of the Himalaya, like the *al* dye of the Central Provinces, the *Manjit* of Kangra will disappear from trade.

These then are a few of the regular articles seen in the drug shops of Kangra, but before leaving that province I should like to invite attention to five articles of the herbalist stalls—

(14) *Rhamnus davuricus*—*Seaul*.—A common tree throughout the regions from 5,000 to 7,000 feet in altitude. The fruit and juice are regarded as drastic purgatives. If this could be utilized an indefinite supply exists.

(15) *Podophyllum Emodi*.—The large scarlet fruits of this plant are universally eaten and relished by the people, and they are not purgative: the roots are recognized as a useful purgative. The number of persons that make a living by collecting and exporting drugs from the higher ranges of Kangra and Kullu is very great. The demand exists for *Karu*, *Dhup*, *Kut* and many such, and these are regularly exported. If, therefore, the European merchants wish to procure *Podophyllum*, they should find little difficulty in organizing an agency. From the examination of this root, instituted some few years ago, it appears to be remarkably rich in the officinal resin. India should not

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only, therefore, meet her own demands, but very largely contribute to the world's supply.

(16) *Balanophora involucrata*.—This most remarkable plant I found recognized as a drug and sold as *Gajpipal*. The properties (or supposed properties) I could not discover.

(17) *Malin*, a root sold in Palampur and elsewhere and said to be very valuable in killing maggots and lice.

(18) *Mathosan*, a member of the *Umbelliferae* which I have not had time to critically examine, but which appears to be a species of *Ligusticum*. One person gave me the name *Bhutkesi* for these roots—a name hitherto assigned to *Corydalis Govaniana*, but it would appear this same mistake has been made on more than the occasion here mentioned.

The roots are sold all over Kangra and Kullu for the purpose of causing the fermentation of *sur* or beer. The roots of *Mathosan* are made into cakes with barley which are sold as *Dheli*, and these are probably identical with the *Paps* of the Tibetans. This subject is of the greatest interest, for in these prepared barley and *Mathosan* cakes we possess a substance that is said to keep good for a long time and a small fragment of which may be relied upon to produce fermentation or may be employed in raising bread. To the numerous officers in India who spend many months together in camp these small fermenting cakes should prove of the greatest service, and it seems just possible that this obscure fermentation agent might even be of value to the brewing industry.

(19) *Adhatoda Vasica*.—Some few years ago I had occasion to be travelling in the Sutlej Valley. I witnessed there the leaves of *Adhatoda Vasica* being scattered over a flooded field of rice. I enquired the object, and was told these acted as a medicine by killing the insect and fungoid pests of the rice crop. My attention being thus directed to this subject, I conducted many experiments with the result that the cultivator's opinion of the plant seemed fully justified. The subject was then recommended by the

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Government of India to the attention of the Local Governments, and much useful additional information was thereby brought to light. Shortly after this Dr. Hooper, of Madras, took up the chemical examination of the plant, and succeeded in isolating an alkaloid to which he attributed the active principle. Mr. Bamber, of Kirkee, informs me, on the other hand, that, subsequent to Dr. Hooper's investigations, he re-examined the plant and formed the opinion that the principle which acts as an insecticide appears to be a volatile product. In this opinion I concur with the latter chemist. In all my practical tests I failed to get results if dried leaves were used.

The opinion prevails throughout India that this is one of the most valuable plants in the treatment of lung diseases. The suggestion has, therefore, been made that it is possible the insecticide property and its value in these affections may in some way or other be connected. The difficulty has presented itself of being able to prepare a medicine from the fresh plant that would preserve all its true properties. I venture, therefore, to commend this subject as one out of the many undeveloped medicinal products of this country that might be fairly well expected to more than reward the energies of many investigators.

34. To the above passages the following may also be added concerning some of the collections made in the Central Provinces :—

(20) *Lathyrus sativus*—*Khesari*.—This has for many years now been fully understood to cause paralysis of the lower extremities to men or animals that live on the grain for any length of time. This property has been found to be due mainly to a volatile principle that is destroyed if the pulse be properly cooked. When travelling through the Nagpur District of the Central Provinces, my attention was directed the other day to a form of the plant with much smaller seeds which the Natives believe is entirely free from the toxic property of the ordinary form of the plant. Thinking there might possibly be some mistake, I gave the

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study of the form met with on wheat (*rabi*) lands my careful consideration, since I had been informed the harmless condition of the pulse grew on rice lands which I was to inspect shortly after. I was thus prepared to critically examine the two plants on my passing from the wheat to the rice areas, but when I was shown the rice field condition of *Lathyrus*, I was utterly at a loss to find any structural peculiarity by which in the herbarium the two plants might be separately recognized. Their habitats are very different, the smaller-seeded form (*lakhori* as it is called) is sown earlier, the seed being thrown over the flooded rice fields towards the close of the rains; the wheat field form is sown later, on rich black soil. This in the Central Provinces is known as *lakh*. The opinion that while *lakhori* is harmless *lakh* is very dangerous I found to be held by the inhabitants of several districts of these provinces and even in the Berars. Indeed *lakhori* is spoken of as a speciality of Nagpur, Bhandāra and Chhatisgarh Districts and is exported from these all over the country on account of its being harmless. It cannot alone be the fact that it is grown in rice land that gives this immunity, since in Oudh, the North-West Provinces and Behar, the rice land *Lathyrus* is very poisonous. There are no botanical characters other than the size of the seed to account for this remarkable chemical difference (if it be chemically confirmed that the popular reputation of the two grains is correct); to what then are we to look for a solution of the enigma of those curious plants? I venture to think that our ignorance of the nature and character of the products of this country is the chief cause, not only of many of our own defects but of our want of scientific progression. It is impossible to urge, therefore, in too strong terms the desirability of greater attention being given to the study of the indigenous drugs of India. We shall thereby find good substitutes for imported drugs, create new trades and prevent valuable local knowledge from being lost sight of in the new stream of western ideas that is rapidly enveloping the country.

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35. I have ventured to reiterate in this report the remarks made by me at the late Medical Congress in order to emphasize the views set forth in the concluding passage.

I. 36. In (a) Economic Gallery, (b) Art-ware Gallery and (c) Ethnological Gallery.

(a) *Economic Gallery*.—Reference has already been made (paragraph 9) to the subject of the proposed classification of this court and to the fact that one out of the 16 bays of the gallery had been fitted up experimentally in order to demonstrate that system. It may be as well to briefly explain what has been done. The gallery is 208 feet long and 24 feet broad. It is divided into 8 pairs of bays right and left of a central space by partitions that extend 20 feet from the side walls. It is proposed by me that the end space, nearest the Economic office, at the north end of the gallery, be devoted to Gums and Resins that the first pair of bays be assigned to Dyes and Tans; the next to Oils, Oilseeds, Perfumes; the two following to Fibres and Fibrous Materials; the next to Medicines; then to Foods; and the last pair of bays to Timbers and Forest Produce; while the end space (corresponding to that devoted to Gums and Resins) shall be assigned to Economic Metals and Minerals. In the gallery immediately below (and which is identical in shape and size) has been assorted the Art Manufactures of India, and in the third gallery still lower down the objects of Ethnological interest, including the crude village manufactures. The ground-floor of all is reserved for offices, work-rooms, etc. When the lift that has been provided for in the construction of the building has been supplied, it will be possible for the visitor to pass from the one floor to the other and to follow out the details of an industry from the raw product to the perfected article or from the primitive attempts of the aboriginal tribes to the better examples of the skilled artisans. By the three galleries being worked into one system, unnecessary duplication and

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expense is saved. Thus in the Timber section it would not be necessary to give examples of wood-carving in order to show suitability for such purposes. A reference on the blocks of timber to the number or numbers of articles made of the wood in question, as shown in the Art Gallery, would suffice. By this system the top-floor gallery can be reserved for raw products exclusively.

37. In speaking of the Imperial Institute collections mention has been made of two sets of products, (a) Commercial and (b) Index. These terms need hardly be defined, suffice it to add that of the latter only very small samples are procured and that these are proposed to be exhibited within small glass-faced tin boxes arranged in five rows against the sides of the partition walls, to which reference has been made. These index boxes will be assorted according to the alphabetical sequence of their scientific names. In the timber section of the gallery small blocks of wood cut to one uniform size will take the place of the index boxes. On the label pasted on each index specimen will be shown the scientific name, the most general vernacular name, and the Dictionary number. But painted on to each such box, in large figures, will also be shown another number. This may be called the specific number. As shown in the experimental bay, certain glass cases are intended to be constructed around the walls, from one end to the other of the gallery. Each of these cases is to be set apart to exhibit the entire uses of a certain species of plant or animal. These specific cases are to be numbered from one onwards, from the beginning to the end of the gallery. It is the numbers of these cases that are to be painted on the small tin boxes of the index collection. Should the chief use of a plant be its dyeing property, the specific case of that plant will appear in the bay devoted to the Dyeing and Tanning materials; if a Medicine, in the Medicinal; and if a Fibre, in the bay containing such articles. In the specific cases will be given a drawing and, if possible, a photograph of the plant, a botanical specimen,



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small samples of all the products it yields, pieces of cloth dyed by it, leather tanned by it, etc.; etc. In front of the specific wall case will be placed a projecting cabinet with sloping glass top within which will be placed the handling samples of the less important commercial products. Below, the wooden panels of these cabinets will, as far as possible, be made of the timber of the specific plant illustrated. Within these closed cabinets will be kept the large air-tight tin cases that contain the surplus stock. On a table within each bay will be placed the Public Register (referred to above, paragraph 7) from which the visitor would have no difficulty in learning certain particulars regarding any article in which he might be interested and would discover at the same time the reference to the office records (Ledgers, correspondence, etc.) for detailed information.

38. Such then is briefly an outline of the system which has been exemplified by the experimental bay already constructed. But there is one feature that has not been fully demonstrated. In the middle of the gallery will be arranged large special cases to contain actual Trade Samples of the chief staple commodities of Indian trade and commerce. Between the pair of bays devoted to Dyes and Tans there would, for example, be placed actual trade samples of Indigo, and of certain important Tanning materials (such as Myrobalans and Cutch), together with Hides, Skins and Leather.

39. This system has only, however, as yet been experimentally tried, since, having no cases nor any storage boxes, it is impossible to catalogue, register and finally arrange the collections that are being year by year procured. Apart from the specimens of the old Bengal Economic Museum and those collected on the occasion of the Calcutta International Exhibition, there has been gathered together three sets of specimens, *viz.* (a) those made by Mr. Mukharji, numbered from 1 to 1195; (b) by Mr. Thurston, from 1 to 3559; and (c) by myself. Through an unfortunate mistake the system of numbering adopted by Mr. Mukharji was not continued and the result has

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been that both in this Museum and in the Imperial Institute, London, a number of entirely different articles have come to bear the same registration numbers. On taking over charge of the office I found it imperative, therefore, to amalgamate the two sets of collections that had been made, and for this purpose I started a complete new set of registers giving all the collections that had been made one consecutive number from beginning to end. The last record on this new register stood on the 31st March 1895 at 6030. But it must be pointed out this new registration had to be made on the invoices sent to London since the system appears to have prevailed of giving the Institute the entire supply collected, when enough had not been procured to make two good samples. In consequence of this we possess no specimens of a great many of the articles now on exhibition in London. I do not propose to commence the work of re-collecting the articles missing from our Museum set until the Economic gallery has been fully equipped.

40. During the year, the work of collection of products was more than enough to absorb the time and energy of the supervising staff. The paragraphs above have shown the extent of the correspondence involved and the amount of literary work that was rendered necessary. As the result of the efforts thus made the following collections were secured :—

Gums and resins	.	.	.	.	.	.	11
Dyes and tans	.	.	.	.	.	.	528
Oil and oil-seeds	.	.	.	.	.	.	10
Fibres	.	.	.	.	.	.	168
Silk	.	.	.	.	.	.	6
Medicines	.	.	.	.	.	.	232
Food	.	.	.	.	.	.	33
Fodder	.	.	.	.	.	.	1
Opium	.	.	.	.	.	.	14
Bees	.	.	.	.	.	.	144
Honey	.	.	.	.	.	.	52
Honeycomb	.	.	.	.	.	.	22
Wax	.	.	.	.	.	.	164
Timber	.	.	.	.	.	.	14
Domestic	.	.	.	.	.	.	4

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41. The system of labelling of collections which it is proposed

II.

The Art-ware Gallery. to adopt throughout the Museum has been pushed forward to a considerable extent in this gallery. This consists in showing on the ticket in bold figures the number and name of object. It has been found impossible to give other particulars on the labels in such a way that they can be seen by the visitor. The Public Register or book of descriptive sheets, referred to in paragraph 7 above, will, it is believed, more than meet every requirement of the public, and since these registers will be placed alongside of the chief groups of cabinets (paragraph 37), no inconvenience will be experienced in turning over the pages to find the desired information about any particular specimen.

42. The work of registering the articles of this gallery, according to the new system of classification, has advanced considerably during the year.

Registration.

Gold and silver articles and jewellery of every kind; lac and lacquered ware; ivory, horn, shell manufactures; pottery and ornamental tiles; enamelled or encrusted, Koft-gari, Bidri and Nielo work have all been inspected, cleaned and checked with the old registers and recorded in the new one. This in itself is an important piece of work—a sort of stock-taking that has not been done since these collections were removed from the old buildings. The last number on the new register of the Art Gallery stood on the 31st March at 1128.

43. The *re-arrangement* of the gallery has not, however, been undertaken, but I am in hopes that this will be carried out before the close of the current year.

44. The additions to this gallery during the year were not very extensive. The Mysore Durbar

New Collections.

presented the Museum with a corresponding set of inlaid woodwork to that sent to the Imperial Institute. This consists of 17 pieces valued at Rs 472. The Jaipur

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Durbar also presented the Museum with four specimens of Brass-ware in the style resuscitated by Brigade-Surgeon T. Hendley, C.I.E.

45. Besides these valuable additions upwards of 200 wood-blocks used in calico-printing have been received from several provinces in illustration of the dyeing and calico-printing industries, together with samples of cloths printed by some of these blocks. A good many of these beautiful specimens are likely to be displayed to greatest advantage in the Economic Gallery, though they are distinctly objects of artistic value.

46. The work of revising and re-registering the Ethnology Gallery has been pushed forward. The Ethnological Gallery. assortment in the register has been made under the following headings :—

- (a) Models of races.
- (b) Models of houses.
- (c) Household utensils.
- (d) Clothing.
- (e) Ornaments.
- (f) Arms.
- (g) Implements of sport, fishing, etc.
- (h) Agricultural implements.
- (i) Articles appertaining to food, drink, etc.
- (j) Sacred objects.
- (k) Musical instruments.
- (l) Educational objects.
- (m) Toys and games.

47. Four thousand five hundred articles belonging to this gallery have thus been checked and re-registered, but with the exception of (e), (f) and (j) no attempt has as yet been made to re-arrange the collections according to the above system. A rough list has thereby been prepared from which, when the objects are re-arranged, it will be possible to prepare a catalogue.

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48. The system of attaching labels, printed in bold characters, to the collections has also been commenced

Labelling.

in this gallery and will be continued during the current year. It is contemplated that one or two more of the above divisions of the collections will also be assorted by themselves and the final re-arrangement thus slowly effected.

49. No expenditure was incurred during the year in the purchase of collections. Some 95 objects

Collection.

were, however, presented to the gallery, chiefly agricultural implements used in Bengal, furnished by the Director of the Department of Land Records and Agriculture. It is much to be hoped that a similar donation could be obtained from every province in India since the Museum is peculiarly deficient in agricultural implements. In consequence of a letter from Herr B. Martiny, of Berlin, in which certain enquiries were made into the subject of the churns employed in India, a series of letters were issued to all provinces and administrations throughout India. In reply we obtained a most instructive collection of churns (detailed in Appendix B) which have now been deposited in this gallery. The information brought together regarding these has been thrown into the form of a report published in the Agricultural Ledger, No. 23.

A very extensive collection of extra-Indian Ethnological objects (from China, Java, Borneo, etc.,) that have hitherto remained in store in the basement rooms have been removed to this gallery. In the labour entailed in cleaning and arranging these collections, Babu Phani Bhushan Dutt has put forth most praiseworthy efforts. Several of the glass cases that hitherto have remained empty have thereby been filled up with objects that are both beautiful and instructive. Their exclusion from the new building on the ground of their not being samples of Indian Ethnology would seem a doubtful policy, the more so when their safe custody was endangered.

## ECONOMIC AND ART SECTION.

**50.** The condition of the collections in the Art and Ethnology galleries is all that can be expected. The colours of many of the fabrics in the Art gallery are fading from the want of the means to shade the windows from the strong light in summer. The condition of the woollen goods and carpets is distinctly better than in the old buildings, where they were much destroyed. To guard against the action of destructive insects a certain number of the cabinets of fabrics are systematically cleaned out, but in future reports it will be stated definitely which cabinets and how often, during the year, have had their entire set of fabrics removed, dusted and re-arranged.

**51.** In the Ethnology gallery the articles that seem to be suffering most are the dresses on the models. Some of the figures require to be repainted, as they have changed colour and become very unnatural. Future reports will record which figures each year have been repainted, the garments removed and cleaned or renewed.

**52.** After what has been said in more places than one above, I need hardly repeat that the arrangements for storing Economic collections are about as defective as they can possibly be. Indeed, until the gallery is fitted up and storage boxes and bottles supplied, it would be almost the wisest course to discontinue making collections. Everything is done that can be done with the existing materials.

**53.** During the year 184 publications were received in the library of the Economic and Art Section. They have all been duly registered and catalogued.

**54.** Considerable inconvenience was felt in the management of the office owing to the ill-health of the Head Clerk, Babu D. N. Dhar, who has now gone on one year's furlough on medical certificate. The work that has devolved on the section has been heavy and the staff altogether insufficient, but since February the additions that have been made to the office of the Reporter have greatly helped

## REPORT OF THE OFFICER IN CHARGE,

to relieve the strain of work thrown on the Museum Section of the office.

Mr. D'Cruz, in charge of the Economic Court ; Babu Phani Bhusan Dutt, in charge of the Ethnological Court ; Babu Hari Das Mookerji, in charge of the Art-ware Court ; and Babu Khagendra Nath Banerji, the office clerk, have all performed their duties satisfactorily.

55. But, as in my last report, I desire permission to refer in terms of special commendation to the manner in which the Assistant Curator, Mr. T. N. Mukharji, has not only discharged his more immediate duties but has responded to the numerous occasions on which I have had to call for his special assistance and co-operation.

I have the honour to be,

SIR,

Your most obedient Servant,

GEORGE WATT,

*Officer in charge of Economic and  
Art Section, Indian Museum.*

# ECONOMIC AND ART SECTION.

## APPENDIX A.

*Summary of registered additions for the year 1894-95.*

### ARTWARE—

#### DONATIONS—

Basket ware . . . . .	1
Earthen ware . . . . .	1
Printing blocks . . . . .	219
Brass ware . . . . .	4
Inlaid wood . . . . .	17
Total . . . . .	242

### ECONOMIC PRODUCTS—

#### FROM IMPERIAL INSTITUTE COLLECTIONS—

Gums and Resins . . . . .	2
Dyes, Tans and Mordants . . . . .	596
Fibres . . . . .	185
Oils and oil-seeds . . . . .	10
Medicines . . . . .	198
Foods . . . . .	10
Fodder . . . . .	1
Bees, Wax and Honey . . . . .	385
Timber . . . . .	16
Total . . . . .	1,403

### ETHNOLOGY—

Clay models (purchased) . . . . .	1
Personal ornaments (donation) . . . . .	1
Agricultural implements (donations) . . . . .	89
Total . . . . .	91

Grand Total 1,736



# REPORT OF THE OFFICER IN CHARGE,

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95.*

Name of Donor.	Nature of Article contributed.
Government of India, Revenue and Agricultural Department.	Economic Products.
Director, Department of Land Records and Agriculture, Bengal.	Dyes, Tans, Medicine.
Ditto ditto, North-West Provinces & Oudh.	Agricultural Implements.
Ditto ditto, Bombay .	Dyes.
Ditto ditto, Madras .	Dyes, Medicine and Food.
Ditto ditto, Assam .	Ditto.
Ditto ditto, Burma.	Dyes, Dyeing and Printing materials.
Reporter on Economic Products to the Government of India.	Dyeing and Printing materials, Leppet Tea.
Inspector-General of Forests, and Conservators of Forests in the different Provinces through the undernoted Forest Officers:—	Fibres, Jute, Dyes and Index Products, Ancient Agricultural implements of Assam.
Deputy Conservator of Forests, Sunderbans, Bengal.	Dyes, Bees and Wax.
Deputy Conservator of Forests, Buxa Range, Bengal.	Bees and Honey.
Deputy Conservator of Forests, Jaldaka and Chel Ranges, Tista Division, Bengal.	Bees, Wax and Honey.
Assistant Conservator of Forests, Chakdar, Manharpur, Koina, Saitha and Samta Ranges, Chalbassa, Singbhoom Division, Bengal.	Bees, Wax, Honeycomb and Honey.
Extra Assistant Conservator of Forests, Puri Division, Bengal.	Tans, Medicine and Timber (Xylia dolabriformis).
Conservator of Forests, School Circle, Dehra-Dun, North-West Provinces and Oudh.	Gums, Bees and Wax.
Deputy Conservator of Forests, Jaunsur Division, North-West Provinces and Oudh.	Timber (Pinus longifolia), Earthen, Resin and Corrugated Pots and Lips, showing the system of tapping Pine trees for Resin.

# ECONOMIC AND ART SECTION.

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Deputy Conservator of Forests, Kheri Division, North-West Provinces and Oudh.	Bees, Wax and Honeycomb.
Through Officiating Conservator of Forests, Panjab.	Bees and Wax.
{ Amballa Division, Panjab.	Wax.
{ Bashahr Division, Panjab.	Bees and Wax.
{ Kangra Division, Panjab.	Ditto.
{ D u n g a g a l i Range, Panjab.	Ditto.
{ Ghanool Forests, Panjab.	Wax.
Conservator of Forests, Hazara Division.	Bees and Wax.
{ Hazara Division, Panjab.	Medicinal products.
{ Punga Village, Panjab.	Ditto.
Deputy Conservator of Forests, Bashahr Division, Panjab.	Ditto.
Deputy Conservator of Forests, Chamba Division, Panjab.	Ditto.
Deputy Conservator of Forests, Kullu Division, Panjab.	Ditto.
Extra Assistant Conservator of Forests, Hazara Division, Panjab.	Timber ( <i>Xylia dolabriformis</i> ).
Divisional Forest Officer, Chanda, Central Provinces.	Bees and Wax.
Divisional Forest Officer, Chindwara, Central Provinces.	Tans and Wax.
Divisional Forest Officer, Damoh, Central Provinces.	Wax.
Divisional Forest Officer, Jubbulpur, Central Provinces.	Bees, Wax, Honeycomb and Honey.
Divisional Forest Officer, Nagpur-Wardha, Central Provinces.	Tan, Bees, Wax and Honey.
Divisional Forest Officer, Punasa, Burhanpur Ranges and Naimar, Central Provinces.	

# REPORT OF THE OFFICER IN CHARGE,

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Divisional Forest Officer, Raipur, Central Provinces.	Bees, Wax and Timber ( <i>Xylia dolabriformis</i> ).
Divisional Forest Officer, Sambalpur, Central Provinces.	Cutch, Bees and Wax.
Divisional Forest Officer, Saugor, Central Provinces.	Tans.
Divisional Forest Officer, Seoni, Central Provinces.	Cutch.
Divisional Forest Officer, Belgaum, Bombay.	Bees, Wax, Honeycomb and Honey.
Divisional Forest Officer, Dharwar, Bombay.	Gums, Tans, Bees, Wax and Honeycomb.
Divisional Forest Officer, East Khandesh, Bombay.	Bees, Wax and Honey.
Divisional Forest Officer, West Khandesh, Bombay.	Bees, Wax, Honeycomb and Honey.
Divisional Forest Officer, North Kanara, Bombay.	Bees and Wax.
Divisional Forest Officer, Sirsi Taluq, Sub-Division Kanara, Bombay.	Bees, Wax and Honey.
Divisional Forest Officer, Panch Mahal, Bombay.	Ditto.
Divisional Forest Officer, Ratnagiri, Bombay.	Ditto.
Through Divi- { Mahableshtar, Bombay.	Wax.
sional Forest { Patan, Bombay .	Ditto.
Officer, Satara. { Shirali, ditto .	Ditto.
{ Wai, ditto .	Bees and Honeycomb.
Divisional Forest Officer, Sholapur, Bombay.	Bees and Wax.
Divisional Forest Officer, West Thana, Bombay.	Tans.

# ECONOMIC AND ART SECTION.

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Conservator of Forests, Southern Circle, Madras.	{ Coondapur, Madras.
	{ Kasaragod, Madras.
	{ Southern Malabar, Madras.
	{ Tinnevely, Madras.
Acting Conservator of Forests, Central Circle, Madras.	{ Udipi Range, Madras.
	{ Palamalai Reserve in the Puchamalais
	{ Musiri Range, Trichinopoly,
	{ Madras.
District Forest Officer, South Arcot, Madras.	Tans.
Through District Forest Officer, North Coimbatore.	{ Bhavani Range, Madras.
	{ Satyamangalam Range, Madras.
District Forest Officer, Cuddapah, Madras.	Ditto.
District Forest Officer, Ganjam, Madras.	Bees.
District Forest Officer, Kistna, Madras.	Tans.
District Forest Officer, North Malabar, Madras.	Bees, Wax and Honey.
District Forest Officer, New Amarampalam Forest, South Malabar, Madras.	Timber ( <i>Dalbergia latifolia</i> ).
District Forest Officer, Nellore, Madras.	Dyes, Bees and Wax.
District Forest Officer, Nilgiris, Madras.	Bees, Wax and Honey.

# REPORT OF THE OFFICER IN CHARGE,

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
District Forest Officer, Salem, Madras	Tans.
Forest Range Officer, Ballampatti, South Coimbatore, Madras.	Bees and Wax.
Forest Range Officer, Kollegal Range, North Coimbatore, Madras.	Bees, Wax and Honey.
Forest Range Officer, Mithupalayam, South Coimbatore, Madras.	Bees and Wax.
Forest Range Officer, Pallachi, South Coimbatore, Madras.	Ditto.
Forest Range Officer, Palmani Taluq, North Arcot.	Ditto.
Forest Range Officer, Udamalput, South Coimbatore.	Wax.
Inspector-General of Forests and Plantations, Mysore.	Tans and Timber ( <i>Dalbergia latifolia</i> ).
Conservator of Forests, Amraoti, Hyderabad Assigned Districts, Berar.	Gums and Tans.
Conservator of Forests, Basin, Berar.	Honey.
Divisional Forest Officer, Melghat, Ellichpur, Berar.	Bees and Wax.
District Forest Officer, Wun, Berar.	Ditto.
Officiating Conservator of Forests, Assam. { Khasia Hills, Sylhet, Assam.	Ditto.
Conservator of Forests, Eastern Circle, Mandalay, Burma.	Tanning materials and Timber ( <i>Albizzia Lebbeck</i> ).
Conservator of Forests, Tenasserim Circle, Burma.	Bees, Wax and Honey.
Deputy Conservator of Forests, Katha Division, Burma.	Bees and Wax.
Deputy Conservator of Forests, Pyinmana, Burma.	Ditto.
Deputy Conservator of Forests, Southern Shan State, Burma.	Oils.
Assistant Conservator of Forests, Chindwin Division, Burma.	Wax.

## ECONOMIC AND ART SECTION.

### APPENDIX B.

*List of Donors to the Economic and Art Section during the year  
1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Extra Assistant Conservator of Forests, Meiktila District, Myetha Palaung, Sub-Division of Mandalay, Burma.	Bees and Wax.
Extra Assistant Conservator of Forests, Sindoung, Shan Hills, Sub-Division of Mandalay, Burma.	Ditto.
Extra Assistant Conservator of Forests, Thabyedoung, Sub-Division of Mandalay, Burma.	Bees and Comb.
Superintendent, Royal Botanical Gardens, Sibpur, Calcutta.	Fibres and specimens of Economic Products.
Superintendent, Botanical Gardens, Saharanpur, North-West Provinces.	Dyes, Fibres, Bees and Wax.
Government Botanist and Director of Cinchona Plantations, Nilgiris, Madras.	Dyes.
Curator and Secretary, Provincial Museum, Lucknow, North-West Provinces.	Dyeing and Printing materials, and Oil and Oil-seeds.
Honorary Secretary, Watson Museum, Rajkot, Panjab.	Wool.
Superintendent, Central Museum, Madras.	Dyes.
Collector of Balasore, Bengal . . .	Timber ( <i>Diospyros melanoxylon</i> ),
Ditto of Nuddia, ditto . . .	Dyes.
Mr. N. G. Mukharji, Berhampur, Murshidabad, Bengal.	Dyeing and Printing materials, Silk Fabrics.
Collector of Jhansi, North-West Provinces and Oudh.	Dyes.
Assistant Commissioner, Northern India Salt Revenue, Panchbhadra, North-West Provinces.	Morali twigs.
Deputy Commissioner of Rawalpindi, Panjab.	Rubia roots.
Deputy Commissioner, Kohat District, Panjab.	Ditto.

# REPORT OF THE OFFICER IN CHARGE,

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Deputy Commissioner, Peshawar, Panjab.	Dyes, Oil and Oil-seeds.
Extra Assistant Settlement Officer, Chanda, Central Provinces.	Dyeing and Printing materials.
T. H. Middleton, Esq., Baroda College, Bombay.	Cotton.
Mr. J. Bharwada, Gondal, Bombay .	Dyeing and Printing materials.
P. S. Kametkar, Esq., Poona, Bombay.	Dyes, Medicine and Domestic specimens.
Commissioner of Sind . . . .	Dyes.
Deputy Commissioner of Basim, Berar.	Bees and Wax.
Sub-Deputy Opium Agent, Rajputana.	Opium.
Acting Postmaster General, Rajputana.	Cane.
Board of Revenue, Madras . . . .	Dyeing and Printing materials.
Collector, Kurnool District, Koilkuntha Taluq, Madras.	Dyes.
Collector, Kurnool District, Servill Taluq, Madras.	Ditto.
Acting Collector, Vizagapatam, Madras.	Ditto.
Tahsildar, Pradatur Taluq, Cuddapah District, Madras.	Ditto.
W. T. Holmes, Esq., Jakkahali Mulberry Gardens, Kollegal, Coimbatore District, Madras.	Cocoons and Silk.
Deputy Commissioner of Garo Hills, Assam.	Dyes.
Deputy Commissioner of Kamrup, Assam.	Silk Cocoons, Dyeing and Printing materials.
Deputy Commissioner of Khasia and Jaintia Hills, Assam.	Dye and Dyeing and Printing materials.
Deputy Commissioner of Naga Hills, Assam.	Dyeing and Printing materials.
Assistant Commissioner, Lakhimpur, Assam.	Ditto                      ditto.

# ECONOMIC AND ART SECTION.

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(contd.)*

Name of Donor.	Nature of Article contributed.
Political Agent, Manipur, Assam .	Food and Dyeing and Printing materials.
Settlement Officer, Nichobar and Andaman Islands.	Timber ( <i>Pterocarpus indicus</i> ).
Medical Store Department, Bengal .	Medicinal substances.
Messrs. Ralli Brothers & Co., Bengal	<i>Lathyrus sativus</i> .
Raja of Bolihar, Rajshahye District, Bengal.	<i>Sida Fibre</i> .
Rev. A. Campbell, Pakhuria, Manbhoom, Bengal.	Index Products.
Messrs. Moran & Co., Champaran District, Bengal.	Indigo.
Messrs. Creet Brothers & Co., Cawnpur, North-West Provinces.	Tans and Leather.
Stewart Tannery and Leather Factory Company, Agra, North-West Provinces.	Ditto.
Issur Chunder Pal, purchased from .	Six clay models.
Baboo Chunder Kumar Das, of Faridpore.	An old Mug gun.
Mysore Residency . . . . .	Five Indian churns.
Commissioner of Coorg . . . . .	One do. churn.
Director of Land Records and Agriculture, Bengal.	Ten do. churns.
Dewas Estate, Central India . . . . .	Nine do. do.
Deputy Commissioner, Ferozepore . .	Three do. do.
Director of Land Records and Agriculture, Punjab.	Twelve do. do.
Commissioner of Settlement and Agriculture, Central Provinces.	Four do. do.
Political Agent, Goona, Central India.	One do. churn.
Dewas Estate, Senior Branch, Central India.	Four do. churns.
Political Agent, Western Malwa, Central India.	Two do. do.
Political Agent, Bhagelkhand, Central India.	Four do. do.

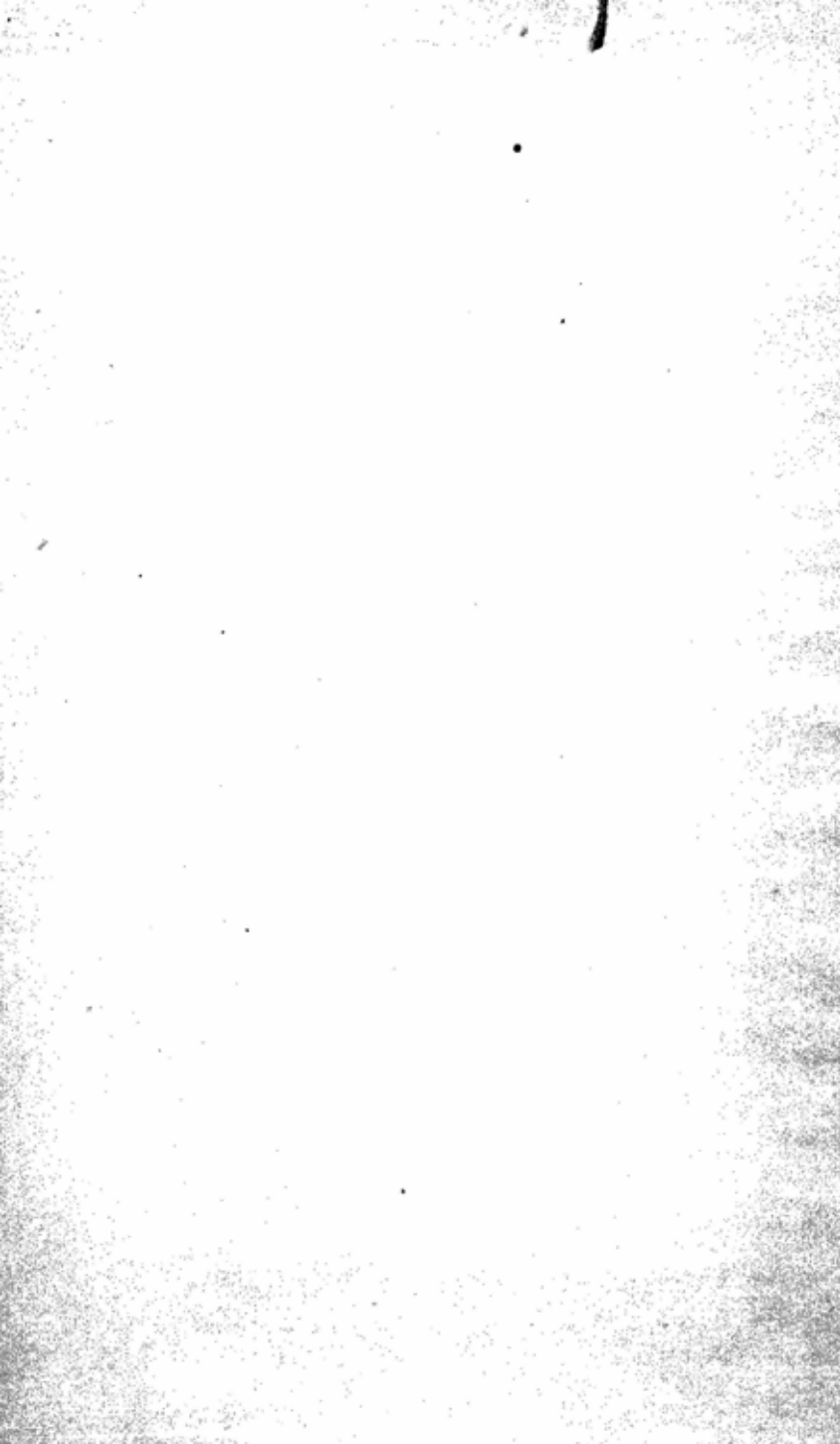


# REPORT OF THE OFFICER IN CHARGE, ETC.

## APPENDIX B.

*List of Donors to the Economic and Art Section during the year 1894-95—(concl'd.).*

Name of Donor.	Nature of Article contributed.
Director of Land Records and Agriculture, North-Western Provinces.	Two Indian churns.
Survey Commissioner and Director, Land Records and Agriculture, Bombay.	Three do. do.
Secretary, Board of Revenue, Madras.	Seven do. do.
Geological Survey of India.	An old cannon-ball.
Babu Jadab Krishna Bose, Bhowanipur.	One stringed musical instrument.
Mysore Durbar . . . .	Set of 17 specimens of inlaid wood-work valued at Rs. 472.
Jaipur Durbar . . . .	Set of 4 samples of brass-ware.
Egypt—From Her Britannic Majesty's Agent and Consul-General, Cairo, through the Government of India.	Case of cotton samples and cotton seed.
America—United States Department of Agriculture.	A valuable collection of cotton and corresponding botanical samples.
Australia—Government, Botanist, Melbourne, through the Government of India.	Marrem Grass-seed.



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